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Address

SUPERSTITION AND THE DOCTOR.*

BY OWEN WISTER, PHILADELPHIA.

DEEP down at the feet of the sky-scrapers in our cities, hordes of men crowd and pass incessantly. The intersecting streets cut slits between tall, sheer blocks of commerce, and all day long through these the traffic pours. From a top story you can watch the human specks below. Some of them hurry, some loiter, meeting and parting. They are in vehicles or afoot, they forge ahead, fall behind, keep abreast—but whatever they do, without end do they move and mingle and pass. Yet their sum is stationary, the concourse is always there. Specks join this mass and leave it on their particular orbits, but itself is a constant spectacle, down on the floor of the great stone valley between the sky-scrapers.

Constant through each year this spectacle has been constant through all the years since cities have stood upon the earth; the changing specks, the unvarying throng, the presiding walls of commerce, justice, religion. Look back across the stretching ages to the earliest day we know; two-wheeled chariots, kings, prophets, conquerors, slaves, naked athletes and painted idols—these gleam against that distant dawn, and from these the throng unbroken comes down between Grecian pillars, and Roman walls, and Gothic arches to us and our automobiles. A vast and motley panorama of change—but how deep does the change go? What things happen in our throng, unknown to London when Chaucer was there, unknown to the Rome of Caesar, or unknown six thousand years ago where Babylon's temples rose above the specks that peopled its two hundred square miles of area? Babylon's patron god was Marduk—but what new gods can change the eternal identity of the crowd, and what new variety of man has been discovered since Sargon of Akkad built sanctuaries by the river?

Ourselves—for this is exactly what we shall here attempt to consider in a certain particular light—ourselves today, together with ourselves while we were building the pyramids, and all the peoples between that time and the present—we, the human race, have not had time to change much. If this earth, our planet, has a point of view, we have been here only a day or so in her count of time. Our own records don't go back ten thousand years; to her we are newcomers; she waits to know us better before according us her intimacy. On the other hand, we regard an acquaintance who has reached the age of eighty as being very old—and in this we are perfectly right. A thousand miles is a long walk, but no distance to telegraph. And, as we can easily think of a thousand miles in these two ways at once, so for our present purpose must we think of ourselves in two ways at once—as having existed on the planet both a long while and a short while; that is our double relation to Time.

As the features and anatomy of men persist, so do the component parts of the crowd. Dissect it, take its various specks and classify them,

* An essay read April 29, 1912, before the College of Physicians, Philadelphia; and Dec. 14, 1914, before the Johns Hopkins Historical Society, Baltimore.

some will be rare, some numerous, but all will be repetitions. We worship, we speak, we dress, on and on through the ages, and through the ages we govern, trade, fight, carve, build; the professions are perpetual, and since the beginning, man has but iterated and reiterated himself—only ever more and more articulately.

Rain, rain, go away,
Come again another day.

Have you heard something like this before? The children of England have been repeating it for no one knows how many generations. The children of Athens had their version of it before Sophocles danced at the theatre; their chant ran:—

ἐξήχετ' ὦ φιλ' ἥλιε
Shine forth, sweet sun!

What chronicle, no matter how archaic, that does not include the priest, the soldier, the statesman, the lawyer, the doctor, the money changer, the merchant, the man of science, the scholar, the artist, the writer, the man of idleness, the man of crime? We might perchance add to these a certain eternal couple, the charlatan and the genius—the man of shams and the man of dreams—they are the chief characters in the drama of mankind, and we shall come upon them continually in this discourse; but they generally appear wearing the aspect of one of the others, and so fall not quite accurately into classification with the rest.

To see ourselves as classified dots in a procession six thousand years long is to see that our similarities to the ancients are really greater than our differences from them; and it seems that we are all about as wise and about as imbecile as we were in the days of Sargon of Akkad, and ten fools in Babylon could match any ten in America. Time has neither killed nor created anything in us. Our mental costume changes, not our mind. Behind a long series of masks, Credulity's face is identical, and we can be divided into those who believe that twice two makes four and those who believe it can make five if you find the secret. Or take the Philosopher's Stone. We smile at the fond alchemists, but in the year 1911 in these United States $77,000,000 were paid to get-rich-quick fakirs, now convicted of fraudulent use of the mails. Seventy-seven millions to fakirs who have been caught—how many millions more to those uncaught? Their schemes were far more transparent to common sense than ever Alchemy was to the mediaeval mind. But it is not alone in our crass foibles that we repeat the ancients; we are also like them in more flattering ways, and here is a subtle example. In our medical writings, delicacy leads us to avoid certain Saxon terms, and employ Latin in their stead. As we use Latin, the Latins used Greek. It is from a Roman medical treatise I take the following sentences:—

"The terms. . . are among the Greeks tolerable enough, and now in general use; for they are met with in almost all medical works and treatises; our vernacular terms are coarse, and not. . . in use among those who had a due regard to modesty in their discourse."

This was written 2000 years ago. And since I am quoting Celsus to show the ancients and ourselves identical, let me quote him again:—

"It is of importance to know whether fatigue has brought on a complaint, or thirst; whether it has been occasioned by cold, heat, or watchfulness, or by hunger. . . That which singly has not the power of exciting disturbance may, conjointly with other causes, do so in the highest degree. The man who is free from disease and vigorous. . . ought not. . . to require. . . the physician. . . He ought to vary his mode of living; sometimes to pass his time in the country, sometimes in town, but more frequently in the open fields. . . But although exercise and food be necessary, the training adopted by wrestlers is superfluous. . . because when the training is interrupted by urgent business, the system becomes depressed, and bodies brought in this way to a high condition very soon age and fall into a state of disease. (You see Celsus knew this before the careers of some of our graduate athletes led us to discover it in the last twenty years.) "But for the delicate" (continues Celsus), "in which class may be enumerated the majority of persons living in large towns, and almost all literary characters, stricter precaution is necessary, in order that they may regain by vigilance what they lose from the very nature of their constitutions, places of abode, and occupation. .. Now the chief means. . . is exercise. . . more severe with him who has been studying less hard . . . and gentle with him who is exhausted."

I suppose that many a good lesson has been learned and forgotten several times in the course of history, and that at each re-discovery our complacency has called it "modern."

This Aulus Cornelius Celsus was a blend of various capacities; he wrote, beside his medical treatise, three others, upon the military art, upon rhetoric and upon agriculture. He serves to warn us—if warning be necessary—that in dealing with the changing specks and the unchanging professions we must not be too clear-cut or too dogmatic in our classification. Michael Angelo was another blend of several capacities; it were easy to name many more. Does not every man contain all his ancestors? Most of these are silent in him. They will take their turn at speaking aloud again in the generations that spring from him. Yet here and there in our own acquaintance do we come upon these blends of capacities, these individuals in whom more than one ancestor is articulate. We know great doctors who have written famous novels; great lawyers whose dearest taste is exquisite pictures; in Boston we all know of a banker whose desire was to have been a musician, and who has consoled himself by giving a great orchestra to his city. Therefore let us emphatically recognize that many a man could have specialized va-

riously; could have walked with credit along two or three paths, and in our sketch of the evolution of the doctor, and of the fragments into which the original prehistoric healer has been gradually split, our stress is to be laid exactly upon the multiplicity of the ego, upon the Chinese nest of characters that any one of us may well be.

We human beings remain so strange, so elusive, so inveterately beyond all logic, that self-contradiction is part of our very harmony. What do we see at the beginning of every doctor's prescription? A sort of thing that looks like an R, but this is the crumbled remnant of the symbol of Jupiter. Astrology still keeps the tip of her finger in the pie. Whatever be our gods, is there one among us who does not foster a pet private superstition tucked away in some crevice of his reason? Dinners of thirteen are seldom eaten at ease. In Baltimore two lives were lost by fire in a house whereof the street number was thirteen. Thereafter nobody would rent it until its number was changed to eleven-and-a-half. Friday is not a favorite day for starting upon a voyage, even with some landsmen. Thus, from the Crucifixion and the Last Supper do we derive not only our salvation and sacrament, but also the two curses which hover over Friday and thirteen. Scarce a week goes by but we see an acquaintance "touch wood" by way of propitiation to the unseen powers; nor is it altogether in jest that he does so; it is the ancestral impulse of magic surviving in him, although he seldom knows it is the virtue of the true cross he thus invokes. Undying is our animism, our pantheism, our "vecchia religione"; science has not killed our intuitive affinity for signs, charms, amulets and methods occult; fragments of the most ancient divination survive with rites and observances gathered from each succeeding epoch. A sick Australian native is still connected by a thread with the magician, and thus cured. "Absent treatment" is our American wireless form of this. The Italian in our slums still takes home the doctor's prescription, and, holding it, watches oil dropped in a bowl of water. As the drops float left or right, the omen declares for or against the prescription. To be sure, says some one, such puerilities are to be expected in Australia and in slums, but hardly among those who dress for dinner and have a box at the opera. Yet I know a doctor whose patient wrote to him from Bar Harbor that her pet dog had bitten her. The dog was quite well, but had it not best be killed, lest it subsequently go mad and the bite prove dangerous? The hostess we dine with may not carry a rabbit's foot, but she may likely enough gaze in a crystal ball, or possess and credit a horoscope. It is not many years since *Planchette* frightened fashionable society most agreeably, and the future is still read in the palms of many hands.

The late head of the British Museum was an ardent believer in astrology. Puerilities we may call these things, *Planchette*, the drops of oil, the crystal ball—puerile we may consider the eminent scholar in the British Museum, as well as the following extract from an important newspaper:—

"DAILY HOROSCOPE.

"'The Stars Incline, But Do Not Compel.'
"Wednesday, April 17, 1912.
"Mercury doth teach
"Subtle wit and speech.

"Under this rule astrology warns people to beware against those who use subtle arguments, hair-splitting speech and logic and specious, witty wheedling words and actions.

"It is declared also to be a day when it is well to be extremely cautious in dealing with fickle and whimsical persons and with those who change and vary in their opinions and desires.

"It is held to be an unfortunate day for indulging in caprices, moods and passions.

"Mercury in beneficent rule is said to grant keenness of perception and intuition this day, and also to enhance the originality and resourcefulness.

"Invention, science, mechanical skill, artistic crafts and processes that require deftness are said to be ruled with extraordinary power for luck this day.

"Saturn, rising over the United States at this period of new moon, does not make a fortunate aspect and afflicts particularly the east. Uranus, on the upper meridian, is held to make an influence for strange attitudes on the part of large and powerful classes, leading them into erroneous channels. It is predicted that there will be an unusual amount of political excitement and much discord among the various governing bodies.

"New York, it is stated by English astrologers, is under a rule foreboding great afflictions, depression and discord.

"There also is a sign governing the world in general, foreomening disasters at sea.*

"It is an evil lunation for rulers.

"Herbal astrology selects today as good for parsnip, dill, carraway, carrot, endive, fern, lavender, licorice, lily of the valley, hazel nut, marjoram, olive, mulberry, oats, myrtle, parsley, valerian, savory and calamint under Mercury

"It is also said that household signs are excellent for baking.

"Persons with this birth-date are ruled for success and achievement during the twelvemonth, but should beware against temptation to deceive a friend.

"Children born today are ruled under signs that are read as powerful for constructive energy and foresight in planning."

Well, what is the significance of this? The significance of such paragraphs being printed in the midst of news about Wall Street, the Republican party, and April changes in railroad timetables? One thing it points to, that the human race clings inveterately to its childhood; that Horace may be skeptical about the "Babylonian numbers," that Savonarola may condemn astrology—yet that Kepler, in spite of his great scientific genius, will, nevertheless, cast a horoscope for Wallenstein; that Harvey and Descartes may overthrow the mystic "spiritus animales," only for Animism and Vitalism to arise equally mystical, in their turn to be dispelled by modern chemistry, by Darwin, Helmholtz and Haeckel; that Swift in the eighteenth century may kill

* This prediction *followed* the Titanic disaster very promptly.

star-gazing, only for it to revive vigorously in our morning newspapers. To our childhood do we cling, indeed—but for the true moral we shall not be ready until we have done some further traveling up and down the centuries. That palmistry (to cite another instance) was known in China 3000 years before Christ, and has survived several religions and several civilizations, and still goes marching along unchanged, while Edison and Marconi and Curie flash upon us their miraculous discoveries—this is something to be taken into our intellectual account.

Our shudderings and our mutterings are long-descended, and the quacks are almost the oldest family in the world. What the first incantation was we are not likely ever to know, but most of us are familiar with that one which is probably the latest: "There is no sin, sickness or death." Many patients have been bidden to repeat this over and over as part of the ritual of their treatment. It seems quite as sensible as a rune I used to chant once:—

Eeny, meeny, moaney, my,
Butter, leather, boaney, stry, etc.

In syllables almost identical the Celts once counted their sheep. The triangular word Abracadabra (which in Hebrew means "I bless the deed") was a respectable and established remedy for fever and ague, A.D. 212; but jargon was chattered over our ailments earlier than this. Cato the elder, that preëminent curmudgeon, who properly hated the Greeks for teaching soft vices to the Romans, and improperly hated doctors because they then all came from Greece—Cato used to practice a little surgery on his farm, about 200 B. C. When his laborers brought him their swollen joints, he would say, not

Double, double,
Toil and trouble,

but

Huat hanat
ista pista sista
damiato
damnaustra.

Whence did he derive this? Was it a little thing of his own? We must pause at this Cato for one moment; he is so like ourselves. He was a shrewd, hard-headed business man of Rome, who saw clearly that Carthage's looming commercial competition must be headed off by the destruction of that city itself; yet Cato quacked over swollen joints. I suspect he did not invent those syllables, but borrowed (or varied) something older, just as different children have different versions of Eeny, meeny, moaney, my. Listen to this:—

Shabriri
beriri
riri
ri.

That is an ancient Hebrew incantation, and here is part of one from Babylon:—

Ki
risch-ti li-bi-ki
risch-ta la li-bi-ki
la li-bi
pisch.

Thus does the incantation, jargon, quackery come trickling down the ages to us: Risch-ti la li-bi-ki, Shabiri beriri, Huat Hanat, Abracadabra eeny, meeny,there is no sin, sickness or death, do we not detect family resemblances throughout? There's rhythm, alliteration and nonsense, the very things that sensuously impress credulity. When Cato quacked over his plowboy, the plowboy felt that something potent and above his comprehension was being set in motion for him, and his sore joint, if the swelling wasn't very serious, was doubtless helped by his state of mind. We have good ground to believe that the old word quack-salver (whereof the resemblance to quicksilver is purely accidental) means him who salves, who saves, who heals by jargon, by quackery. Without scientific confirmation, I can merely venture to hazard a guess that in all these incantations a primitive germ of "suggestion" is to be found. And when the doctor writes his prescription at our bedside, don't some of us suspect a special virtue in his hieroglyphs? And don't we half nebulously imagine that if he would bestir himself and employ *all* the knowledge which hides behind his impenetrable eye, he could work real special miracles in our behalf? The power to imbue us with this mystic confidence is what we term today a good bedside manner; it is a survival of white magic, and is essential to our welfare; he whose faith in doctors is decayed is ripe prey for charlatans.

It is tempting to run riot among the strange examples of this ingrained ancestral credulity which lies in us so deep, and crops out in such protean aspect, but I will tax your patience with only two cases more, and these from personal experience. In a New England State, since Colonial times, has lived a family of natural-born bonesetters. One of these unlicensed hereditary practitioners unquestionably cured Theodosia Burr of hip trouble when the surgeons of New York had failed. Today any jury of that State will take the word of an unlicensed bonesetter against the sworn testimony of an educated, licensed physician. (There is in this a seamy side of American democracy, but I will not open that door. The bone-setting hereditary gift is a fact just as authentic as is the "jumping Frenchman" of Canada.)

In the same State, and within the sound of the whistle of the express trains between New York and Boston, a family who were suffering from anemia dug up their recently buried sister and roasted her liver to stop her from "vampiring" them. Now, at the end of the nineteenth century, for that is when my anecdote occurred, the liver of the New England Yankee woman

was roasted because six or seven thousand years ago people believed that the liver was the seat of the soul. Only thus could the vampire be killed. On this liver we fly straight back from New England, through Britain, the Middle Ages, Rome, Greece, Egypt to Babylon, where we have to stop for lack of earlier records. In spite of the telephone, we resemble the mummies—the set fractures of whose bones, by the way, give proof of a clearly developed knowledge of surgery.

In the Yankee vampire, Solomon, visiting New England, would have recognized at once an old acquaintance—Lilith—although he might have to visit Borneo or Burma or Uganda, to see divination by the liver in actual practice.: In our down-town streets he would very naturally mistake our banks and stock-exchanges for temples of the gods; but wherever he went, he would hum his old maxim, that there was nothing new under the sun. Much that is done by the Hudson and Mississippi they did by Tigris and Euphrates.

In attempting to discern the silhouette of the doctor against the various receding backgrounds of history until all outlines are merged in the mist of the primeval ages, two wholly contradictory thoughts arise; one wonders how the doctor, when once he had emerged as distinctly as he did in the person of Hippocrates, should not have gone on growing ever clearer and clearer, like a photograph developing on a plate, instead of presently becoming dimmer and more dim, until he grew virtually invisible for centuries. And on the other hand, one equally wonders how the doctor ever emerged at all. He was no money changer or lawyer or merchant. He was far different; he was merged with the multitudinous and ubiquitous quack—the quack self-deceived and the quack self-confessed; he was stirred into the same cup with priests, astrologers, patron divinities, magicians, witches, prophets. Superstition held him in her hand, and closed her hand over him. Let us greatly foreshorten as we review his evolution, and from it distil morals useful for ourselves and our children.

Of course we don't know when he began. Scholars don't know, but we may all boldly guess that he began pretty soon. Somebody must have been hurt in battle or in hunting, and discovered some neighbor particularly successful in giving him relief. This must have constantly happened ages before Ea, god of light and beneficence, healed the sick and raised the dead. There would the doctor have been, already quite emerged, quite on his own feet. But the sun, rain, lightning, thunder were too much for man's imagination. Many gods, good and bad, evidently encompassed man. Religion, therefore, controlled every least act of his life, and thus we find the priest at the root of every doctor's family tree. He was at the root of many other professions besides religion and medicine; he declared the law, regulated education; he swayed armies; he ruled trade and domestic life and agriculture and migration; he was the first statesman, and his doctoring was as public an office as any of his other offices. With a proportion of truth much greater than when uttered by Louis the Fourteenth, the priest of archaic ages could have said, "L'état c'est moi." And by the time intellectual evolution had reached the stage of revealed religion, literature had appeared, and of this also the priest took control, and by this means, by the means of sacred writings, he ordered and presided over the community and became the central power of the state. The Pentateuch contains what is to us the most familiar example of these various revealed religions, and the thirteenth and fourteenth chapters of Leviticus give an admirable instance of the priest in medicine. They are a mixture of close, accurate observation on the one hand, and of incomprehensible rites on the other. "If the plague of leprosy be healed in the leper, then shall the priest command to take for him that is to be cleansed two birds alive and clean, and cedar wood, and scarlet and hyssop. And the priest shall command that one of the birds be killed in an earthen vessel over running water. And for the living bird, he shall take it, and the cedarwood and the scarlet and the hyssop, and shall dip them and the living bird in the blood of the bird that was killed over the running water. And he shall sprinkle upon him that is to be cleansed of the leprosy seven times, and shall pronounce him clean, and shall let the living bird loose into the open field." These symbolic and magical prescriptions follow upon an account of leprosy itself, containing directions about isolation and burning the patient's clothes, which are as rational today as when they were written. But from this we distil our first moral: In those ancient days the State, through the priest, regulated the practice of the healing art. The doctor's duty to the community came before his duty to the individual. That ancient relation between doctor and State will revive; is reviving.

It is from such therapeutics as Leviticus discloses (and innumerable parallels are to be found in other ancient literature, in the Vedic lore, in the Hermetic books) that we see physiology suffering a set-back—almost a strangulation—in its very cradle; a mystic, instead of a natural explanation of life gains headway; baneful, nay, frightful superstitions arise—such as a man's getting rid of his disease by transferring it to another. Naaman's leprosy clove to Gehazi by way of punishment; Death agreed to take the wife Alcestis instead of the husband Admetos; the perpetuation of these fables can be seen almost daily in our criminal courts, for, though mysticism has at last let go of the doctor, it has not relaxed hold of the patient.

The significant, nay, the enormous fact for us to realize and remember is that charms, spells and rites in all these thousands of years have never advanced, never matured, while surgery and medicine, precisely in proportion as they

have shaken off the shackles of mysticism and dogma, have grown in their power to prevent and alleviate human suffering. Magic is stationary, magic hangs unchanged on a side offshoot of the great tree of evolution; it is science alone that we find in the main trunk of growth.

But, as I have said, the doctor's outline was very dim, long before and long after the date of Leviticus. He was encased in the priest, looked with the priest's eye, spoke with the priest's voice and continued to live in the nebulous clot of the supernatural that had been his birthplace. By the time we see him distinctly extricated from this, the nebulous clot has already been the parent of all varieties of "irregular" practitioners. Evidently these ancestral quacks, sorcerers, magicians, and so forth, were a class in ill repute, for we find very ancient laws forbidding people to have recourse to them. These laws were not at all based upon the idea of deception or sham, but on the belief that such people were in league with powers of evil instead of with the power of good which supported the priest or "regular" practitioner. It was a scandal to the pious when disease was for the first time roundly asserted to come not from the gods but from natural causes. The man who dared say such a thing was called an atheist; nor can we at this time quite realize the courage that such an assertion required. For during those early eras in India, or Assyria, or Egypt, or wherever, the gradual specialization of man had logically caused an equivalent specialization of gods, patron divinities multiplied, and I need only remind you that Thoth, Hermes, Apollo appear (with others) in connection with healing. But these greater personages were by no means all; the human body came to be parceled out among several dozen little gods, each with an exclusive territory, seldom bigger than the thumb joint. Whenever a man felt any pain, the divinity presiding over that particular spot was to be duly propitiated. From the cult of disease-making the belief naturally followed that illness was a devil inside the patient—and here we meet the origin of the nasty stuff our grandparents had to swallow in such quantities. In order to disgust and drive out the disease devil, large doses and monstrous compounds of dreadful taste were swallowed. We can note in this devil, too, the archaic symbol of the modern germ. Had we not been reminded by various illustrations that superstition is just as vigorous today as ever it was at any time, it would surprise us to find moving along abreast with the patron gods, a rational, concrete observation and practice. Although Tuesday and Wednesday, sacred to Mars and Mercury, were the prescribed days for blood letting, some elaborate and non-mystical surgery had come up among the Hindus, cupping was known, and, beside the setting of fractures, already mentioned, the Egyptians had specialized in ophthalmia. Nevertheless, Socrates said he owed a cock to Aesculapius; nevertheless, Aesculapius was given a supernatural origin and education, and his temples were everywhere in the Grecian world, while Melampus began with the touching advantage of having two grateful serpents lick his ears. This taught him the language of birds and beasts.

Thus we get our impression of the early life of the Healing Art: a long, a very long infancy, a long, a very long childhood, full of fairy tales. It was thousands of years old when Babylon fell, yet it had not reached adolescence. In Homer, the doctor and the surgeon had become distinct, but rites and spells and sacrifices attended their ministrations. Nevertheless, the Trojan war (like many wars) caused an advance, both in practice and in observation, and so we reach a great milestone, 460 B.C.

Certain patches along the road of history blaze with light, while the stretches in between them look dull. One of these bright patches is a certain half-century in Greece, and the light from it to this day helps us to read many things. It would almost seem as if, flowing loosely and indefinitely about over our planet, were certain fertilizing forces of intellect, generally manifest in an average way, one century being usually as productive as another. But sometimes these forces seem to collect and glow as one for a while, emitting a lustrous and ineffable radiance. Thus, when the lamps of poetry, architecture, sculpture and philosophy were blazing in Greece as they have never simultaneously blazed since, it is natural that the lamp of medicine should also suddenly burn with a perfectly new light.

What makes Hippocrates illustrious along with his contemporaries Aeschylus and Plato and the rest, is not his intelligent molding into a system what the past—and especially the Pythagoreans—had indiscriminately handed to him—though this alone would have been a signal achievement. It took a fine mind to be the first to say:—

"Art is long, life is short, the occasion sudden. . . Experiment is indeterminate, generalization hazardous. . . Not only the doctor must do his part, but the patient as well, and the servants. . . For desperate cases desperate remedies. . . Whatever in connection with my professional practice. . . I see or hear. . . which ought not to be spoken of. . . I will not divulge." Thus speaks Hippocrates. It took a fine mind and a fine nature to utter such words. But it is not for this that Hippocrates is styled the father of medicine; it is because he dared to say that diseases came from natural causes, and not from the gods: Hippocrates walked out of the temple and sat down in his office. With that courageous act of deliberate self-conscious secularization the doctor's outline becomes at last distinct; he has emerged from Superstition and taken his place in Science.

Here is an epoch, indeed, in the psychic experience of mankind. It is as momentous as the discovery of Columbus, or the Reformation.

When Hippocrates dared to prove that epilepsy was not sent by the gods, the snapping of the bands of superstition made a sound that passed forward through ages, to be echoed back by Pasteur and Lister. Let it be repeated, we can hardly imagine the courage of such an act. Among the present company there may be those who, at one time or another, in upholding some principle, have run counter to the general convention of their friends, but theirs has been an adventure quite mild compared to that of Hippocrates. Is there a man here who has known what it is to stand alone and deny publicly by preaching and by practice some universally held political or religious belief? Attack the right of private property; many will be against you, but you will find fellow revolutionists. Declare that the story of the birth of Minerva is not a whit more mythological than what is asserted in the Nicene creed. . . you will shock some people, but by no means everybody. There is not in any American city at this moment one single social, political or religious belief that is shared and venerated by the community as a whole. Probably but once in the whole history of this country has a man known something similar to the experience of Hippocrates, and that was Garrison, when in 1830 he declared that slavery must be abolished. Yet even he was not as lonely as Hippocrates; for slavery had been already abolished in the rest of the civilized world, but all the world that Hippocrates knew believed that sickness was sent by the gods. Ah, to have uplifted your voice, and, amidst the general dissent, proclaimed a truth which goes on benefiting humanity 2400 years after you are dead—that is something to have done!

So this happened 2400 years ago. It opens the first chapter in the history of scientific medicine, and it brings our discussion again in sight of the sky-scrapers. From the age of Pericles down along the centuries to ourselves, superstition and the doctor walk as separate beings, in spite of the long eclipse which overcast the mind of Europe. Before that huge and vast barbarian darkness set in, medicine and surgery were able to advance several steps, superstition, of course, keeping pace with them—even stimulated by competition with them. Moreover, Philosophy took Medicine by the hand and led her astray; Plato and Aristotle, by their theorizing, actually beclouded much of the good Hippocrates had done. Schools arose, and controversies about methods just as bitter as today, so that when Galen appeared about five centuries later he found medicine a house divided against itself, crumbling with all sorts of fancies and futilities, and it needed his great genius merely to rebuild, let alone to extend, the foundations. But Galen inherited what Hippocrates had never known, dissection. It is said by Celsus that the surgeons of Alexandria practised vivisection on condemned criminals, Alexandria arguing that a few malefactors could be thus utilized for the benefit of mankind at large. If this ever did happen, humanity put a stop to it before long; and after humanity the church spoke, and not only vivisection but even dissection was for centuries forbidden or discredited.

Now while all this was going on in the rational department, the irrational was not idle. Amid the teeming harvest whereof Hippocrates was the earliest and splendid fruit, the ancient weeds took a new start. Astrology, which Greece transplanted from Babylon, where it flourished for public use, was by Greece converted to private use, and so passed on to Rome. Then, in transit anatomy became almost inextricably commingled with the planets, even at the very time when the human body was being rationally investigated at Alexandria 300 B. C. A custom of casting horoscopes, private and official, thence flourished uninterrupted for 1900 years, when (in the sixteenth century) astrology seriously affected trade. Furthermore, the temples of Aesculapius were not driven out of lucrative business because Hippocrates had renounced them and their works. We need only single out Alexander, the Paphlagonian. He conducted a particularly enterprising establishment, and during the plague, A.D. 166, his oracle issued a verse which was used an as amulet, and inscribed over doors. This Alexander bears a striking resemblance to some of our brothers who pass by the sky-scrapers; he was a spiritual medium; he was a blackmailer, he and his will live and prosper as long as the human race continues upon this planet.

No wonder that such a man as Galen strove to lift medicine out of the stifling tangle he found it in; no wonder that Antoninus Pius passed laws regulating the practice of medicine. And here once again our moral recurs: Ancient medicine was controlled by the priest; with Antoninus the State lays its secular authority upon it, with ourselves, more and more, the State will take measures to supervise a class of men in whose hands lies the health of the community.

The vast European darkness fell upon the glory that was Greece, and the grandeur that was Rome. Through that long night the living spark of medicine did not quite expire. The Philosopher's Stone and the Grand Elixir kept it alive. In Italy, at Salerno, it glimmered quite steadily for centuries—until Napoleon. It wandered to Damascus and Bagdad; it inspired the Byzantine school. But mostly it smouldered beneath Sorcery, Palmistry, Monasticism—in sooth, beneath an axphyxiating mysticism; and beneath mysticism it was found in the seventeenth century, scarce brighter than Hippocrates and Galen had left it. One great, courageous man in the sixteenth century—Ambrose Paré—was not mystic, and braved the faculty, and was called a quack for bandaging amputated limbs instead of pouring boiling oil over them. We meet other great names—Paracelsus, for instance—but it was Wiseman and Harvey who really turned the spark to a flame. A spark it had been since 400 B.C., 2100 years; we know the flame it is become

in the last three centuries. We need not more than pronounce the names of Hunter, Jenner, Darwin, Lister, Pasteur; our story ends when medicine and surgery waked from their long sleep of superstition, and began again where Hippocrates and Galen had left off.

We have now taken a glance at the human family in a particular light, we have surveyed ourselves from sky-scrapers to Babylon, that we might be reminded how little we have changed during our brief history. We have had to skip much; we have omitted the great renaissance of witchcraft following upon the Inquisition and the Scholiasts; we have described none of the outcries invariably raised against each important advance in Science—as against every other intelligent innovation. In one of our great cities, leading citizens bitterly opposed the introduction of illuminating gas for twenty years; in the same city, leading citizens undertook to prove theoretically that if anthracite coal were carried in a railroad car instead of in a canal boat, the coal would be reduced to dust by the vibration. The Governor of a great Southern State in recent years vetoed a bill providing for compulsory medical inspection of school children. May we not hope that the time is approaching when all schools and all colleges will be subject to such inspection, and people will speak of the former unenlightened prejudice against it, just as we speak of the prejudice against vaccination and chloroform? The Russians named the first child vaccinated among them Vaccinoff; a little girl, christened Anaesthesia, thus celebrated the fact that she was the first child born under the auspices of chloroform. Such events, great and little, and such instances, all through the length of history, we have perforce omitted—but had we been able to include them all, the whole testimony from the beginning until today would but show us what has been already shown—that superstition, credulity, prejudice, are indestructible. And how, indeed, can superstition ever disappear, while the universe remains a mystery? And when shall we understand the universe? Is there a person in this room, or in the world, who can explain why sugar tastes sweet and salt does not? Or how the perfume of the rose is wafted through the air? Some men can handle bees without being stung, and some can pick up scorpions and deadly snakes unscathed. It is not done by a trick; these are authentic facts, but even the men themselves do not know what personal quality it is that they use so strangely. We do not know why the grotto at Lourdes has undeniably been able to heal the wounds of certain patients deemed incurable by regular practitioners. What, then, is there that we wholly understand? Wherever and whenever we attempt to answer the questions Why? and How? we step off at once into the vast and featureless unknown. Therefore Superstition survives, no matter what Science may achieve; and we may call the Quack a constant by-product of that eternal surrounding mystery whence Science from time to time draws a slender thread, a new clue, for the benefit of man.

What then, fellow patients, is the moral for us? Is not one moral, at any rate, that we should beware of our prejudices? Can we not imagine two Athenian ladies meeting on the day that Hippocrates made his great Declaration of Independence? Can we not fancy one lady walking up the fashionable street of Athens and meeting her friend in the fashionable Square of that classic town?

"Good afternoon, my dear friend! And who, O Penelope, is this profane upstart who would slander the immortal gods by declaring that they do not send us epilepsy?"

"I know not the fellow's name, O Parthenia! But surely he will be done to death for his great wickedness."

"Worse than wickedness, O Penelope! His shocking vulgarity."

And what, then, doctors, is the moral for you? Is it not, in one way, quite the same as it is for us—To live always with an open mind? No easy thing to do, by the way! The mystery of the hereditary natural bone-setter who was able to cure Theodosia Burr, the still greater mystery of the authentic cures at Lourdes—these and similar phenomena hold something that you may some day be able to formulate and control. During the sensation created in France by Mesmer, a committee of wise men was appointed to investigate and report upon the singular (though not wholly novel) pretensions which Mesmer had made. The wisest of them all, Benjamin Franklin, reported adversely as to the existence of the so-called mesmeric fluid, but he remained noncommittal regarding the cures effected.

So much for an open mind—a passive duty. The doctor's active duty looms large. We have reminded ourselves that in the beginning of civilization he was combined in the same person with the statesman and the priest; we have seen him in the course of his evolution separate himself from the priest, and become secular. Then, in curious analogy to the archaic specialization of gods presiding over various portions of the human frame, the doctor in his turn has specialized, so that today we may say that he is divided into many fragments, one for the eyes, another for the ears and throat, and so on; yet, singularly enough, as our civilization grows increasingly complex, the doctor's path is leading him again towards a union or coöperation with the Church and the State. Once more, as of old, his duty to the community tends to come before his duty to the individual, because we are beginning to see the community's health as a unit.

Second, and only second, to a national ideal, is the nation's physical endurance and vitality and fertility. The strength of each generation's limbs, the cleanness of its blood, and the cleanness and soundness of those to whom it shall transmit life, this more and more must be the doctor's concern, must precede his consideration for the individual. We have learned to accept,

with diminishing protest, that yellow poster which marks our house when it harbors some dangerous communicable disease. To "free-born Americans" of fifty years ago, this would have been intolerable. But—man's inalienable right to life, liberty, and the pursuit of happiness, does not include the right to be infectious. We shall go further than the yellow poster. There are signs of it. Disease is not communicable only, it is also transmissible. In some parts of our country the law already prohibits certain classes of criminals from parenthood. But here we graze a thing called "eugenics." Now about eugenics there is at present a deal of overdone emotion and underdone reflection. Let us (if this is yet possible to the American people) restrain ourselves from dashing down foolish and hasty laws upon our Statute books. Such laws, when enforced, often work their precise reverse. If doctors and parents will drop the old-fashioned excess of reserve, and talk sense to boys and girls privately, public school-rooms need never be an arena for this delicate topic. Fewer asylums and hospitals, fewer untimely graves—this good end will not be best accomplished by bad means, by crude legislators and crass preachers. To denounce youth as vicious when youth has merely followed the impulse of adolescence, is futile, because youth will not believe this; other and juster reasons must be given, if youth is to listen and be controlled; and any young man, properly warned and properly informed, will not be merely willing but anxious to learn from his doctor before marriage if he is fit to be a husband and father.

From the shoulders of Hippocrates upon his descendants has fallen a mantle of great courage. Not the sailor, not the soldier, no man of any kind, has given his life so freely and with such serene gallantry as has the doctor. In his search to lessen human suffering he is dying daily, quietly, without sound of trumpets and drums. Inspired with physical and moral courage—not only to brave pestilence, but also, when need be, to face violent public opinion for the sake of a great cause, this is his hereditary duty, and his destiny, noble and exalted.

Original Articles.

OBSERVATIONS UPON TEN CASES OF DIVERTICULUM OF THE BLADDER.*

By Hugh Cabot, M.D., Boston.

In 1912 I presented before this Association some observations[1] upon three cases of diverticulum of the bladder and I desire now to add to the evidence at that time put forward. The two most interesting questions in connection with these pouches are: (1) Their origin, whether congenital or acquired; and (2) their management by operation.

CLINICAL EVIDENCE BEARING UPON THE ORIGIN OF DIVERTICULA.

In the discussion in 1912 I found myself at variance with the views expressed by Dr. Chute, to the effect that these conditions were acquired rather than of congenital origin. The acquired type must obviously be due to obstruction in the urinary tract at some point below the bladder, and it behooves the advocates of the theory that they are acquired to produce evidence of obstruction as it also behooves those who hold the view that they are congenital to show that these patients are not guilty of obstruction. Upon this question I have the following evidence to submit:—

Case 1. J. H. G., 38 years. March, 1911. Symptoms began at age of 25. Autopsy showed bilateral diverticula with dilatation of both ureters, obstructive thinning of kidney tissue. Pyelonephritis. There was no demonstrable obstruction in the urinary tract.

Case 2. M. G., 30 years. May, 1912. Symptoms six months' duration. One diverticulum just above left ureteral orifice. Removed by operation. No urethral or prostatic obstruction. Operative recovery. Patient lost sight of.

Case 3. L. L., 28 years. October, 1909. Known to have had cloudy urine without obvious cause for two years. One diverticulum just above right ureteral orifice. Removed by operation. No urethral or prostatic obstruction. Patient well. Clear urine 1913.

Case 4. J. W., 29 years. June, 1913. Symptoms a year and a half. One diverticulum posterior wall of the bladder. Removed by operation. No urethral or prostatic obstruction. Good operative recovery. Patient lost sight of.

Case 5. A. G., 59 years. August, 1913. Symptoms one year. Prostate moderately enlarged by adenomatous growth. One divertivulum just above orifice of right ureter. Operative removal of diverticulum and prostate. Slow but satisfactory convalescence. Urethral obstruction due to prostate.

Case 6. W. R. B., 46 years. March, 1914. Cloudy urine of some years' duration. No other symptoms. Operative removal of left-sided diverticulum, into which the ureter opened. No urethral or prostatic obstruction. Patient still under observation.

Case 7. G. B. C., 23 years. January, 1912. Symptoms two years' duration. Cystoscopy shows bilateral diverticula in neighborhood of ureteral orifices. Kidneys too far gone to permit operation. No urethral or prostatic obstruction.

* Read before the American Association of Genito-Urinary Surgeons at Stockbridge, Mass., in May, 1914.

[1] See Journal, Vol. clxxii, p. 300.

CASE 8. C. E. K., 50 years. May, 1913. Symptoms eight years. Two diverticula on right side, one above, one below ureteral orifice. Operative removal. No urethral or prostatic obstruction. Operative recovery.

CASE 9. E. F. P., 50 years. March, 1914. Symptoms ten years. Seven years ago perineal prostatectomy. No relief of symptoms. Ten ounce residual continued. Two right-sided diverticula above ureteral orifice. Operative removal. Operative recovery. No urethral or prostatic obstruction. Empties bladder completely.

CASE 10. A. N. B., 72 years. July, 1913. Symptoms ten years. Prostate much enlarged. Right-sided diverticulum some distance above ureteral orifice. Operative removal of prostate and diverticulum. Now empties bladder completely: Urine clear. Urethral obstruction due to prostate.

Taking these ten cases together they show an average age for the onset of symptoms of 37 years, and though it is probably fair to assume that the condition must have existed for some time before the onset of symptoms, let us assume that it did not. Only two of them showed clinical evidence of obstruction, Cases 5 and 10. Moreover, obstructive lesions of the prostate are, to say the least, not common at the age of 37, and none of these patients had any demonstrable stricture of the urethra. For the other eight cases it seems to me logically to follow that the advocates of the theory of acquisition must assume that the cause lay in fetal life and has disappeared beyond the possibility of clinical demonstration. This is, I believe, the theory of Englisch. It must, however, be admitted that a condition giving rise to sufficient obstruction to force outward all the coats of the urinary bladder, and then disappear, leaving no trace behind it, belongs in the category of the miraculous. Upon the evidence submitted, and which I have been able to collect from other sources, it seems to me far more probable that these saccular lations are of congenital origin, that they may, and do, exist for years without causing symptoms which, when they appear, depend upon the advent of infection. Entire quiescence must not, however, be taken to mean that these conditions are harmless since, as is well recognized, they occur most commonly in the neighborhood of the ureteral orifices. By their presence and by their extreme likelihood of producing pressure upon the ureter, they sooner or later produce ureteral dilatation, hydronephrosis and extensive destruction of the kidney. When thus situated they are therefore always a serious menace to renal integrity and not uncommonly destroy the patient. Those cases which have been discovered early and removed have been followed by complete cure.

Operative Management. It goes, I believe, without saying, that when a diverticulum of the bladder is discovered the indications for its operative removal are clear if the condition of the patient is such as to make recovery within the bounds of probability. Two conditions in particular, apart from mere technical difficulties, will influence the result. First, the condition of the kidneys, and second, the amount of pericystitis and peri-diverticulitis, which result from long-standing infection. In Cases 1 and 7 the extent of the kidney damage was such as to constitute a positive contra-indication. Case 1 came to autopsy and Case 7 was clearly not likely to live long. A lesser degree of the same condition existed in all of the other cases except Case 3 and Case 10 and must therefore generally be reckoned with. The damage to the kidneys resulting from obstruction is not confined, in the case of unilateral diverticulum, to one side. With diverticulum there has in our cases been constantly observed very marked hypertrophy of the bladder wall, which is sufficient to increase the pressure around the ureteral orifice on the sound side and thereby increase the work and lead to dilatation of the ureter. This bilateral dilatation was demonstrated at operation in Cases 4 and 8, both of which were unilateral cases. Upon precisely what mechanism this hypertrophy depends is not to me clear, but its extensiveness I believe to be beyond question and its importance as a menace to the integrity of the kidney is certainly great. It therefore becomes extremely important to study the kidney function of these patients carefully before undertaking operation, though successful results may be obtained in patients with extremely low functions, as shown by Case 8, whose function was at no time above 10% by phthalein and whose average function was about 5%. Case 5 had a function of not over 15%, and Case 4, with a posterior wall diverticulum, a function of 25%.

Peri-Cystitis and Peri-Diverticulitis. The inflammatory reaction around these sacs is in some cases very great and has seemed to depend directly upon the duration and severity of the cystitis and diverticulitis. It not only greatly increases the difficulties of operative removal, which in all conscience are great enough in many cases, but when of severe grade and widespread, seriously compromises the future ability of the bladder to take up its function. This is aptly illustrated by Case 8, in whom the removal of the diverticula, which were extensive though unilateral, did not result in return of the contractility of the bladder. He has, during the year which has elapsed since operation, been free from his acute attacks of pyelonephritis, but his bladder still contains much residual and he is largely dependent upon a catheter. It therefore follows that the earlier these pouches are discovered and removed the greater the probability of a complete cure, such as resulted in Case 3.

Operative Technic. I believe it to be now fully demonstrated that no operation short of excision of the diverticulum can be expected to cure. Case 9 had his prostate removed years ago with great completeness but without benefit to his symptoms, as he continued to have a large

and increasing residual. Once these pouches have lost their contractility and given rise to residual urine, that contractility cannot be restored by removal of an obstruction, should such exist. The lesser operations of enlargement of the orifice of the diverticulum seem to me total failures. In one of our cases, Case 8, this was tried three years before my operation, without benefit and without even stopping the progress of the symptoms.

I shall, therefore, confine this discussion to the technic of excision of the diverticulum. In all cases, no matter where situated, the operation will be facilitated by the opening of the bladder, which not only enables the surgeon to identify accurately the position of the sacs but facilitates the dissection by what might be called the bimanual method, one finger in the bladder and the other hand upon the outside. From this point on, however, the operative attack should vary according to the position of the pouch.

1. *Diverticula on the Posterior or Lateral Wall, Not in Relation to the Ureteral Orifice.*

In these cases the position of the ureter and the consequent possibility of wounding it need not be considered, and the following technic has served us well: The bladder having been opened and the finger introduced into the pouch, the bladder wall is incised freely down to the neck of the pouch, which is then circumscribed, a clamp applied to the pouch and the rest of the dissection rapidly finished. The incision in the bladder wall, though long, has not seemed to me objectionable, and it greatly facilitates speed and avoids unnecessary trauma to the surrounding tissues.

2. *Diverticula Situated in the Neighborhood of the Ureteral Orifices.*

Under these circumstances the avoidance of unnecessary damage to the ureter is of prime importance and its identification, unless aided by artificial means, is a matter of no small difficulty and considerably lengthens the time of operation. We have believed it best to isolate the ureter on one or both sides, according as the pouch was unilateral or bilateral, in the neighborhood of the iliac vessels. The ureter is then clamped lightly with a Crile clamp to prevent wound contamination by the urine, opened and a good sized gum-elastic bougie passed to the bladder and left in place. This maneuver renders the identification of the ureter easy at all times and removes the danger of its accidental incision or division. The difficulty next met with is the separation of the pouch from the surrounding tissues, to which it is generally firmly welded. It has generally seemed unwise to split the bladder wall down to the orifice, as is done in the posterior or high lateral wall cases, and particularly is this undesirable in bilateral diverticula. The separation of the sac is in some cases much facilitated by packing it with gauze, thus giving a firm mass on which to dissect and rendering the identification of the tissue easy. Our greatest difficulty has lain in the fact that these pouches are so surrounded by scar tissue and glued to everything in the neighborhood that it is by no means easy to distinguish them from other important structures, as for instance, the rectum. After the pouch has been thoroughly freed (it generally must be done with the scissors and cannot be freed by blunt dissection) it may be drawn upwards by means of a clamp and the neck of the sac freely divided. The wound thus left can generally be closed without difficulty, though in the cases situated below the ureteral orifice the adherence of the bladder wall to surrounding structures sometimes makes closure without tension difficult.

The hardest problem lies in those cases in which the orifice of the ureter has been drawn upward into the diverticulum. For these, Young some years ago suggested a technic which involved the leaving of a flap of bladder wall around the ureteral orifice, the rest of the sac having been excised. This flap was to be sutured into the defect in the bladder wall. This technic is ideal and I am glad to be able to report that I have recently carried it out without serious technical difficulties and I believe with a good result. This flap should have its base toward the median line, not only because of the probably better blood supply, but because in the majority of cases these sacs lie above, below or to the outer side, and much more rarely to the inner side of the ureter. From these anatomical peculiarities it follows that the ureter naturally tends to follow the inner side of the sac. Where this technic is to be carried out it is essential to have a guide in the ureter, but, as I have already pointed out, I believe this to be desirable in any case. Where the conditions are such that the technic of Young is impracticable and the ureter yet enters into the diverticulum, it must of course, be divided and reimplanted into the bladder wall at a point which can be reached wholly without tension. We have come to believe, largely by experience in other conditions, particularly cancer of the bladder, that the most successful implantations of the ureter are accomplished by leaving a half inch or more of the end of the ureter projecting into the bladder. The intent of this is to enable the ureter to accommodate itself to the altering conditions of the bladder and finally come to rest without tension. We have not believed that it was desirable to attach the ureter to the bladder wall by many sutures and have rarely used more than two for this purpose.

Drainage of the Ureter. The only further question is as to the desirability of providing drainage for these dilated and necessarily more or less abused ureters. In two or three cases we have placed a good-sized soft rubber catheter in the ureter, extending upward nearly to the renal pelvis, and have brought this catheter out through the suprapubic wound. The smooth convalescence of these patients suggests that this may be a desirable maneuver, and in a considerable number of cases in which constant drain-

age of the ureter has been employed for other reasons, no undesirable results have been seen. This I believe to be better technic than to drain the ureter through the incision made for the insertion of the guide bougie, and this incision we have always closed tightly with two layers, a technic which the dilatation of the ureter will always permit.

In conclusion I desire only to emphasize what seem to me the important points of the operative treatment of these cases: Free bladder incisions carried down to the orifice of the sac in the more accessible cases. The opening of the ureter and the placing of a guide bougie in all cases where the diverticulum is in the neighborhood of a ureteral orifice, and finally, the constant drainage of the ureter for some days in those cases in which resection has been necessary or the flap operation of Young has been possible.

SPLENIC ANEMIA WITH REPORT OF A CASE.

BY P. E. TRUESDALE, M.D., FALL RIVER, MASS.

D. H., female, aged 21. American born. Good family history. Admitted to the Highland Hospital, January 11, 1912. Referred by Dr. W. T. Learned. She had "anemia" at seven years, otherwise no illness of importance. For five years she had indigestion, frequently demanding enforced rest and the exercise of special care in her diet. Attacks of hematemesis occurred at least as often as once a year. Stools were always "tarry before an attack." Epigastric pain during the second attack was severe and tenderness across the upper abdomen subsided only after many days.

Catamenia began at 16. Though irregular for several years it has been regular during the past year. Accompanying discomforts have not been marked. About November 20, 1911, she noticed that her stools were tarry. A few days later she vomited blood. Hemorrhages continued for about five days and she remained in bed two weeks. During this attack there was acute pain in the epigastrium with local tenderness that was quite marked. Her best weight was 138 pounds in November, 1911. When this attack subsided she was hungry between meals, but had no pain.

Physical Examination. Well developed and nourished girl, perceptibly anemic. Throat was negative. Heart of normal size and position with sounds regular and of fair quality. Over the precordia there was a loud blowing systolic murmur, heard best at the base and along the left border of the sternum. Palpation of the abdomen revealed an enlargement of the spleen, the lower margin of which was about half way between the costal margin and the umbilicus.

Examination of test meal showed HCl-10. Total acidity—30. No bacteria. No blood or pus cells.

The blood examination was as follows:

Jan. 12, 1912.

Red cells	2,400,000
White cells	3,800
Hemoglobin	30%
Color index	.62

Smears: No normoblasts; no megaloblasts. The red cells show variation in size, but not to a marked degree.

Jan. 16, 1912.

White cells	3,000
Differential count of 100 white cells	
Polynuclears	78%
Lymphocytes	14%
Myelocytes	4%
Eosinophiles	4%

Jan. 27, 1912.

Red cells	3,800,000
White cells	2,200
Hemoglobin	45%

On January 31, 1912, laparotomy was done with a view to splenectomy. Dense adhesions from the spleen to the parietal peritoneum were encountered. Upon separating these adhesions there was persistent hemorrhage of a degree which soon made itself apparent in the condition of the patient. The spleen was, therefore, not removed. The peritoneal covering of the spleen was divided in several places and the omentum was anchored high, with a view to establishing a collateral circulation. The abdomen was then closed. There was a good recovery following this operation and the general condition of the patient continued fairly satisfactorily until November, 1912, when she had another attack of hematemesis.

Examination of blood, April 21, 1913, was as follows:

Red cells	4,800,000
White cells	4,000
Hemoglobin	80%

She entered the hospital again on April 22, 1913. Splenectomy was done. The collateral circulation, which had resulted from an interposition of the omentum, was essentially with the vessels of the abdominal wall. Smart hemorrhage took place from these enlarged omental veins, which, however, were accessible and quickly controlled. There was no excess of free fluid in the peritoneal cavity. Although the spleen was a good fraction larger than it was when seen before, its delivery appeared to be less prohibitive. The liver was more grayish, but its surface was smooth and its consistency apparently normal. The spleen was "turned turtle," as described by Warren,[1] and the large vessels at its hilum were ligated. The operation was completed with the patient in fair condition. Convalescence was slow, but was marked by a progressive improvement in the blood picture, and in the general health of the patient. Now, eighteen months after operation she has passed her probationary period in a training school for nurses connected with the hospital of a neighboring city.

Blood examinations at the date of discharge from the hospital and subsequently were as follows:

May 4, 1913.

White cells	10,000

May 13, 1913.

White cells	15,000
Red cells	4,800,000
Hemoglobin	70%

May 28, 1913.

White cells	10,000
Red cells	4,000,000
Hemoglobin	80%

January 1, 1915.

White cells	12,000
Red cells	5,600,000
Hemoglobin	85%

Pathological Report. Specimen consists of a spleen weighing 288,000 grams. It measures 21 x 13 x 7 cm. At the lower pole there is a patch of calcareous deposit, 7 x 4 x 5 cm.

Microscopical Examinations. Sections of the specimen show the increase in size to be due to an overgrowth of the connective tissue of the organ. There is no hyperplasia of the lymphoid tissue. Some sections are densely peppered with a black pigment (iron?).

Diagnosis. Chronic splenitis

DR. A. C. MACRAE.

This case is recorded on account of its clinical analogy to gastric ulcer. The patient had a persistent disturbance of digestion, hunger between meals, intermittent attacks of hematemesis and epigastric tenderness. During one attack she was seen by Dr. W. T. Learned and Dr. E. F. Curry, whose examination revealed an elevation of temperature and pulse, associated with a distention and marked tenderness over the upper abdomen. The cause of this picture, by no means inconsistent with a perforated gastric ulcer spontaneously sealed, was explained by the presence on the upper surface of the spleen of a large area that had become necrotic. Later, upon finding an enlargement of the spleen, a blood examination was made and the diagnosis established. Thus is emphasized the indispensability of a blood picture in a case in which the spleen may be suspected of playing a part.

Splenic anemia occurs in young adults as a rule. It begins insidiously and at first progresses slowly. The first indication may be hematemesis, epistaxis, melaena, slight or so severe as to be almost fatal. Senator[2] states that the blood examination reveals a fairly uniform condition of things. There is a diminution in the red blood cells. There is a low percentage of hemoglobin, and a leucopenia. In the later stages of the disease ascites appears, preceded or not by cirrhosis of the liver. It is this association of enlarged spleen, ascites, and cirrhosis of the liver to which Banti[3] has drawn special attention. He pointed out that in cases of this association the enlargement of the spleen, sometimes at least, was the precursor of the other two conditions and probably was the original focus.

D'Espine[4] believes that the beginning of Banti's disease in adults dates from early childhood in many cases. He reports two cases in infants with the autopsy findings and tabulates the details of sixteen other cases in children which he has compiled from the literature. In eight cases the symptoms were merely enlargement of the spleen and anemia,—the first stage; in seven cases there were in addition hemorrhages, especially from the stomach and intestines, urobilinuria, slight jaundice and ascites. D'Espine inoculated the spleen tissue into animals with negative results, confirming the belief that the disease is not of infectious origin.

L. B. Wilson,[5] in a study of eighteen cases of splenic anemia at the Mayo Clinic, writes on the pathology. Thirteen spleens examined showed a chronic diffuse process. In each spleen there was hyperplasia of one or more of the constituent elements. He further states that, while primary splenomegaly may begin as an overgrowth of the lymphoid tissue or of the endothelium, in the ordinary course of events a secondary overgrowth of the stroma of the glands will appear later, accompanied by a degeneration of the lymphoid or endothelial elements; that the largest spleens are those in which the lymphoid or endothelial hyperplasia is greatest. Wilson concludes by observing that the histological picture from cases of primary splenic anemia seems always to be in complete harmony with the hypothesis of the presence of a slowly acting local toxin.

Splenic anemia is now claimed by many authors to have found its place among curable diseases. Present interest appears to be centered around an obscure etiology and the end results reported after splenectomy. Reports of splenectomy for this affection are no longer rare in literature, yet few were to be found published prior to the last decade. The disease was not regarded a clinical entity and the mortality from surgical measures was high, 28%, for example, in a series of 32 cases reported by Armstrong.[6] D'Espine[4] reported eight cases in which splenectomy was done, with recovery of all but one of the children. Among the early successful splenectomies for splenic anemia was a case reported by Dr. J. Collins Warren.[4] The patient was a male, aged 26 years, who complained essentially of distress after eating, occasional vomiting and a troublesome diarrhea. The diagnosis was made from the blood picture and the presence of an enlarged spleen. The operation was complicated by considerable hemorrhage, which was effectively controlled by turning the spleen over in a downward direction, thereby delivering the large vessels of the hilum of the spleen well into the abdominal incision.

Inasmuch as this case was among the first splenectomies for splenic anemia, the details of history leading up to his death form an interesting report. With the assistance of Dr. Warren of Boston and Dr. Torrey of Beverly, he was traced to Greensboro, N. C. By the courtesy of Dr. John Wesley Long, who attended him there, the following report is available.

J. M. entered St. Leo's Hospital, Greensboro, N.C., December 21, 1912. He had not worked for two months on account of nausea, spitting and vomiting of dark fluid. He denied having indigestion or abdominal pain. He stated that he was otherwise as well as usual though not as strong. On the morning of December 20, 1912, while in his berth on the train, he was seized with vomiting and was found on the floor of the sleeper in an unconscious condition, having vomited much bloody fluid. Soon after his admission to St. Leo's Hospital he had another severe spell of vomiting dark bloody fluid. When seen by Dr. Long on the following morning the patient was conscious, much prostrated, pale and inclined to sleep. The pulse was rapid and weak. Attacks of hematemesis continued to recur. The blood picture was as follows:

Red corpuscles	1,936,000
Leucocytes	16,000
Hemoglobin	40%

The patient was losing rapidly and after a consultation it was deemed advisable to operate. The following note was made at the time of operation. The stomach was opened through a 3-inch incision, near the pylorus. The stomach contained bile-stained bloody fluid. No ulcer or growth was found. The pylorus was patulous, and the duodenum dilated but contained no ulcer as far as explored by the finger and the eye. The duodenum and jejunum appeared to contain many blood clots. The under surface of the liver, especially about the bile ducts, and also the left lobe of the liver were hard and nodular, not quite the woody hardness found in malignancy. A small section was removed from the liver for examination. Following the operation the patient had no nausea or vomiting but during the afternoon had a copious bowel movement consisting largely of blood clots, soon after which he succumbed. The excised piece of liver was sent to Dr. W. T. Whitney, curator of the Warren Anatomical Museum, who reported that it was undoubtedly cirrhosis.

Klemperer and Mutsem[7] report a case of Banti's disease cured by splenectomy. Urbino[8] reports nine splenectomies for anemia, from Nurci's clinic with three deaths. W. J. Mayo[9] reports eighteen splenectomies for splenic anemia with two operative deaths and twelve that are well twelve months to seven years after operation.

In conclusion one may reiterate the importance of a blood examination in conjunction with other evidence in order to differentiate splenic anemia from a type of gastric ulcer occasionally present in young adults. And that a patient restored to health for many years by splenectomy may die from a probable continuation of the same process of intoxication.

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THE STUDY OF DISTURBANCES OF THE STOMACH.

BY H. F. HEWES, M.D., BOSTON.

[From the Clinic of the Massachusetts General Hospital.]

(Continued from page 341.)

The record so far gives us a diagnosis of chronic gastritis proven by the tube finding. This condition may exist by itself or be an associate of cancer. The absence of blood here was perhaps in favor of a simple gastritis as against cancer, but cancer gastritis does not always show blood. The history of alcoholism gave a sufficient explanation of the gastritis. An x-ray examination was made as a further possible means of investigating the possibility of cancer. The x-ray finding was negative. Of course a negative x-ray finding does not rule out cancer, but after exhausting all methods and finding evidence of gastritis only, we are justified in a diagnosis of simple gastritis.

Ths same result is true in cases where the result of tube examination and x-ray examination are both negative, whatever the character of the history in cases of nervous dyspepsia, and debility, or in cases where the tube finding shows simple hypersecretion or hyperacidity with negative x-ray findings. Some of these cases may be conditions of organic disease but all that we can do is to exhaust our methods of study and report them as nerve or functional conditions according to the finding. In this case, the tube finding was the important factor in diagnosis.

This series of cases illustrates the method of procedure employed in stomach work. Diagnosis is made, as you see, sometimes on the evidence of one finding, but as a rule by the study of the combined evidence of the findings by all methods of study, the history record, tube examination, and x-ray examination. A very important factor is the judgment of the physician in interpreting the evidence of the combined clinical picture. A physician may be expert in tube examination or in x-ray examination, but this is not enough. Most of all he must be a man of experience in the interpretation of combined clinical pictures.

The meaning of special findings, however definite, varies greatly according to the other factors of the case. Thus a definite x-ray finding has one meaning when combined with one kind of history or one kind of tube finding, and another meaning when combined with a different record in this respect.

This point is illustrated by the following records:

CASE 10. M., age 20. For eight years, probably more he thinks, he has had spells of dyspepsia, consisting of distress in lower part of epigastrium, coming on two hours or more after meals. The symptom comes three times a day and is relieved by eat-

ing. Has 2-4 spells a year, lasting until he consults a doctor, then freedom for about two months, then another spell. No vomiting, some gas. The principal thing is a gnawing distress in belly. Is otherwise a well boy.

Examination: Hb., 100%. Physical examination negative.

Fasting contents, 20 c.c. of clear fluid containing a few cells, no food, no blood. Feces negative.

X-ray: Stomach outline normal, good sphincter, but irregularity of D-cap. Marked deep vigorous peristalsis in stomach above pylorus. No 6-hour residue.

Diagnosis: History suggests a duodenal ulcer of long duration. X-ray suggests duodenal ulcer. Operation: Small ulcer of anterior wall of duodenum with scar tissue.

Case 11. E. Z., age 22, Aug. 5, 1914. For ten years at least has had trouble with his stomach, he calls it sour stomach. He will have 2-3 days of symptoms, then freedom for perhaps a week. Mostly the symptoms in the spells consist of distress soon after eating, which may last hours. There is gas and sometimes vomiting. The location of pain is just below the navel, on the whole to the right,—it is not really pain, but distress and a sour feeling in the mouth, with raising of acid fluid. For a period of two years vomited often, every 2-3 days, after food. No vomiting now. Trouble may keep him from work in spells. Bowels always constipated.

Examination: Physical examination negative. Fasting contents, 20 c.c. of clear fluid with abnormal cellular sediment but no food. Free HCl present. Test meal: Free HCl, 0.15%. X-ray record: Constant irregularity of duodenal cap. Outline of stomach normal, sphincter normal. Stomach empties at the start more quickly than normal, yet some 6-hour residue. Peristalsis above pylorus normal.

Diagnosis: History suggests some longstanding cause of dyspepsia, but the type of symptomatology is not typical of ulcer, though possible as an associate of this condition, since many ulcer cases do not have typical symptomatologies. X-ray finding suggests duodenal ulcer, in the irregularity of the duodenal cap area by fluoroscope and plate, similar to that seen in the patient just reported who was operated upon the day before this patient and showed duodenal ulcer.

Operation: No ulcer or abnormality of stomach or duodenum formed. Chronic appendix with mass of adhesion about it. Appendix removed and diagnosis verified.

Here are two cases with a similar x-ray finding of a significant character in the present state of knowledge of x-ray interpretation. In the case with the ulcer, the history record was typical also, and I had no hesitation in making a positive diagnosis. In the second case the history was not typical and I did not make a positive diagnosis, but thought the x-ray finding sufficiently definite to justify exploration, especially with the long history of disturbance. There is one more point brought out by a comparison of these two cases. The x-ray expert made a positive diagnosis of ulcer in both cases but he pointed out a discrepancy in the second record as contrasted with the first which makes the record less typical as regards ulcer than the first. In the first case in addition to the constant irregularity of the duodenal cap there was abnormally deep and vigorous peristalsis of the stomach. In the second there was the same irregularity of the cap but the peristalsis of the stomach was normal. On such points, a difference in associated symptoms with similar findings by x-ray, and a slight variation in these x-ray findings in the two cases, may a difference in diagnosis hang.

Case 12. R. T., age 28. May 12, 1912, the patient was operated on for appendicitis. The attack as far as could be determined was an acute one and some fluid was found in the peritoneal cavity. Six months after the operation the patient began to have symptoms of stomach distress, which have continued since and increased in severity. At the present time, Sept. 1, 1914, the symptoms are as follows: Upon rising the patient is all right and eats a good breakfast. About one hour after breakfast a gnawing feeling comes in his stomach and he begins to regurgitate sour stuff, which he spits out. The noon meal relieves the symptoms. One to two hours later they begin again—to be again relieved by the evening meal, returning about 9 p.m. No vomiting. Some loss of weight. The trouble is always with him.

Tube examination: Fasting contents, 20 c.c. of clear fluid. No food, no blood, free HCl present. Test meal contents: Free HCl, 0.19%; high acidity. Feces examination negative. X-ray examination: Marked irregularity of pyloric sphincter and duodenal cap. Peristalsis above abnormally deep and vigorous. Operation showed firm bands of adhesion running from the duodenum to the gall bladder and liver. Many adhesions about gall bladder and about cecum and ascending colon at hepatic flexure. Gall bladder normal. No evidence of ulcer of the stomach or duodenum.

If we compare the record of this case with that in No. 10 which proved to be a case of duodenal ulcer, we find that the two records are similar in all respects, the character of the symptoms, the tube finding and the x-ray finding. Even the minute details of the x-ray finding are similar. In fact the x-ray expert made a positive diagnosis of duodenal ulcer in Case 12 as well as in Case 10. The only difference in the two cases lies in the record of appendicitis and operation preceding the onset of symptoms in the latter case. This one point of the record suggested that adhesions formed at the time of the appendicitis and attached to the duodenum might be a pathological process behind the symptoms rather than ulcer. In fact this was the diagnosis which was made before operation in spite of the x-ray expert's diagnosis of ulcer.

Adhesions are an undoubted cause of stomach symptoms in many cases. As a rule they do not give as typical a picture of duodenal ulcer in history and x-ray findings as in this case, but this case and many other similar ones that I have seen prove that they may do so. So where there is reason from the earlier record of the

case, to believe in the presence of adhesions, as in this case, I always make an alternative diagnosis of ulcer or adhesions, or cancer or adhesions, whatever the x-ray sign, unless the tube findings prove definitely cancer or ulcer.

Here is another case illustrating this same point, viz:

'1. The capacity of adhesions to give stomach symptoms. 2. To give x-ray findings which cannot be distinguished from the findings seen in cancer or ulcer of the stomach. 3. As compared with the cases already reported, the different meaning of definite x-ray findings when associated with one set of clinical factors, from that seen with the same finding associated with another set of clinical factors.

CASE 13. M. S., age 60. Two years ago the patient was taken with a sharp pain in the epigastrium to the right, going to the shoulder blade. Pain lasted 4-5 hours. Patient was then well, with no symptoms of dyspepsia for six months, when another attack of pain in the stomach and right side occurred. The severe pain lasted most of one day, and some pain continued for three weeks. Was laid up in bed. No vomiting. Then relief until five months ago, when pain again returned. This pain has been present ever since, not constantly, but a part of every day. Some gas. Bowels constipated. The patient has developed a brown color. The distribution is not that of Addison's disease. No real icterus.

Examination: Hemoglobin, 70%. Physical examination negative. Fasting contents: 10 c.c., no food, no blood, no excess of cells. Free HCl present. Test meal: Free HCl, 0.07%.

X-ray examination: Failure of peristalsis over lower part of curvature and antrum. An irregular shadow in this region. Some 6-hour residue of bismuth. Spincter and cap normal. Diagnosis: History suggests gall stones. X-Ray record, carcinoma of the stomach. Tube finding against cancer of the stomach advanced sufficiently to give the x-ray picture obtained, if this picture represented cancer.

Operation showed gall stones, and firm adhesions from gall bladder to curvature of stomach and duodenum. Here we had an x-ray finding suggesting malignant disease of the stomach or at least some lesion of the stomach wall, but the distortion of the stomach was due to adhesions.

This case, like the others, shows how much diagnosis may be a matter of the evidence of the combined findings of the case, rather than of any one single finding however positive.

From the practical point of view in such cases as these, doubt as to the exact diagnosis, or error in this, is not of great consequence, since all the cases had an organic lesion, for which operation was the proper treatment. All that we needed to diagnose was some organic pathological process affecting the stomach, demanding operative treatment, ulcer, or cancer, or adhesions. The cases where we cannot afford to make such positive diagnosis incorrectly are those where the stomach condition, giving the positive signs as the x-ray signs, is a purely functional process or the result of reflex disturbance of the stomach from general disease, or from disease located elsewhere than in the stomach or stomach region. A case of gall stones can be operated upon through the same opening made for stomach exploration, but a case of chronic appendix (Case 2) or of intestinal adhesion, or a renal calculus cannot always, and in such cases the error is of some account, even if real operative work is needed after all, and the functional conditions, nerve conditions, heart conditions, tubercular conditions, syphilitic conditions, ptotic conditions, giving stomach symptoms or signs, should not be opened at all.

Here is another case illustrating this same point of the dependence of diagnosis upon combined findings rather than one single finding.

CASE 14. R. H., age 42. For 2½ years the patient has suffered much of the time from distress soon after food and bloating with gas. Eight months ago she began to vomit and has vomited every day since, sometimes three times a day. Vomiting comes after eating, and according to the patient contains food of previous days. No actual pain. She has never vomited blood. The patient has lost about 10 lbs. in 8 months. She is evidently of neurotic type.

Examination: Hemoglobin, 80%. Examination otherwise negative.

Tube examination: No fasting contents obtained. Test meal contents. Free HCl, 0.18%.

X-Ray examination: Opposite lesser curvature an incisura. No other irregularity in stomach outline. Peristalsis vigorous. Feces showed slight blood test. The x-ray finding here was suggestive of possible ulcer but not definitely diagnostic as the peristaltic variation from normal was slight and such as may be seen in functional disturbance or with adhesions. Further tube examination and feces examination was ordered. The second tube examination showed: Fasting contents 15 c. c. of reddish fluid giving a strong blood test, no food, free HCl present. Numerous epithelial cells in sediment. Test meal contents taken a day later gave a positive blood test. Feces gave a positive blood test. A third tube examination gave a positive blood finding in the fasting contents. Feces again gave a blood test. A second x-ray examination gave a normal finding. The incisura found before could not be seen.

With the repeated blood findings, however, it was decided to explore for ulcer. Operation showed a chronic ulcer of lesser curvature. In this case the x-ray finding was suggestive of ulcer on one occasion but failed to give evidence on another. It was not conclusive enough to go by alone, but with the repeated blood findings in the stomach contents and feces, and the history, the combined picture was sufficient for diagnosis of ulcer. In fact, I should have advised operation here upon the repeated blood findings alone, if both x-ray records had been negative.

Case 15. R. P., age 25. Two years ago the patient had a sharp attack of pain in the epigastrium followed by several days of dyspepsia. No vomiting. Since that time there have been several periods of dyspepsia lasting a week to a month with gnawing distress, coming as a rule one to three hours after eating, and raising of gas. For the last two months dyspepsia has been fairly constant.

Examination: Hemoglobin, 85%. Physical examination otherwise negative.

Tube examination: Fasting contents, 20 c.c. of clear fluid, no food, no blood, free HCl present. Test meal contents. Free HCl, 0.07%. Feces examination negative.

X-Ray examination: Incisura in antrum wall. Peristalsis vigorous on lesser curvature. X-Ray diagnosis, ulcer of lesser curvature near antrum. With this finding further tube examinations were ordered. All of them were negative as well as all feces examinations. The patient was operated upon with the diagnosis of gall stones, in spite of the x-ray diagnosis of ulcer. Gall-stones and some adhesions from gall-bladder to stomach were found Here the incisura x-ray finding was not supported by tube findings as in the previous case, and it meant a different condition than in the previous case, though similar in type.

Definite tube findings also have a different interpretation according to the associate findings. For example, a hypersecretion or hyperacidity finding combined with an x-ray finding suggesting gastric duodenal ulcer, means ulcer. In the absence of such associated finding it may mean simple hyperacidity.

There are a few facts which I have had impressed upon me by experience in the study of stomach cases, which I wish to specially emphasize. The first fact is the danger in making a diagnosis by the record of symptoms alone in the face of negative tube, x-ray and feces findings, particularly if the diagnosis leads to advice for operation. The following case will illustrate this point:

Case 16. A. R. Age 50. August 1914. One year ago the patient began to have distress in the stomach coming soon after meals and associated with vomiting from the start. The distress came daily, the vomiting three or four times a week in the early days. The condition has persisted. During the last month vomiting has occurred daily. No blood seen. The patient has lost 25 lbs. in weight in four months.

Examination: Patient thin but fairly nourished. Hemoglobin, 75%.

Tube examination: Fasting contents, 20 c.c. of clear fluid. No food, no blood. Free HCl present. Test meal contents. Free HCl, 0.06%. X-ray examination. Outline of stomach and duodenum normal. Peristalsis normal. Feces test negative.

Here the history suggested marked stomach trouble as in Case 2, but all clinical findings were normal. A diagnosis of possible cancer was made by the attending physician and operation was performed. No lesion of the stomach was found. Gall bladder and appendix were also normal.

This case illustrates the danger of positive diagnosis by history alone, with negative clinical findings. I was personally against operation in this case as I did not believe that either cancer or ulcer of the stomach capable of giving the symptoms recorded here could exist with negative findings both by x-ray and tube.

Here is another case showing the unreliability of a record of subjective symptoms for diagnosis:

Case 17. R.A., Age 29. For two years the patient has suffered from dyspepsia continuously. The symptoms are distress coming one to three hours after meals, relieved by food, frequent regurgitation of sour fluid, no vomiting. Loss of 20 pounds in two years. The patient is a steady drinker but never gets drunk.

Examination: Hemoglobin 90%. Fasting contents, 50 c.c. of green mucus like fluid adhesive to the bowl. No food, no blood, no free HCl. The sediment is filled with epithelial cells in mucus. Test meal. Free HCl present, amount 0.03%, lower than the average normal. Feces examination negative.

(To be continued.)

A STUDY OF THE EFFICIENCY OF MIXED TOXINS (COLEY) IN INOPERABLE SARCOMA. A CRITICAL ANALYSIS OF 134 MICROSCOPICALLY PROVEN CASES.

By Torr Wagner Harmer, M.D., Boston.

Assistant in Anatomy, Harvard Medical School; Junior Assistant Surgeon, Children's Hospital; Assistant in Surgery, Massachusetts General Hospital.

(*Continued from page 338.*)

CASE REPORTS.

INTRANASAL AND ACCESSORY SINUSES.

Case 6. Personal Case. E. M. McK., girl of 12. Throat records, vol. xv, p. 161. Referred by Dr. Mosher.

Feb. 17 1911, record states: right incisor stands alone pushed out in front of tooth line. Gum on this side very much enlarged and darker in color than surrounding tissue. Both antra dark to transillumination.

Feb. 18, 1911. Operation, Dr. Mosher. Ether. Right upper canine removed and found to be sound. Tumor tissue hard and fibrous, slightly suggestive of osteosarcoma. This was found to extend upwards into antrum. The anterior wall of the antrum together with tumor removed with chisel. Cavity curetted. Considerable hemorrhage. Packed.

Pathological Report. Giant cell sarcoma.

March 1, 1911. Toxin treatment started and continued for six weeks. Maximum dose, 2½ minims. Constitutional reactions of moderate character. Local reactions (pain in cavity after injections) severe.

March 4, 1914, two years, eleven months since toxins discontinued, patient found in her new home. Well developed and nourished girl of good color

without subjective or objective evidence of recurrence.

May 29, 1914. Patient still well, three years, one month since treatment discontinued.

Criticism. Owing to the good results obtained by excision and curetting in cases of this type it may be argued that this case should be excluded. It has been included on account of the size and extent of the process. Recorded in Group F.

CASE 7. Personal Case. Referred by Dr. Mosher. Chondrosarcoma of the antrum, ethmoid, and sphenoidal sinuses. J. T., a weaver of 31. Throat records, vol. xxiii, pp. 41 and 255.

Nov. 11, 1912. Ten weeks ago struck over left zygoma with weaving shuttle. Swelling persisted and after two weeks began increasing. Slight exophthalmus for six weeks. Pain slight. Examination shows considerable edema of the left face. Tenderness to pressure over zygoma and antrum with dense shadow of all sinuses on the left by transillumination.

Nov. 12. Operation, Dr. Mosher. Zygomatic arch removed, exposing somewhat encapsulated tumor involving antrum, ethmoid and sphenoidal sinuses. Removed as completely as possible with the curette and packed.

In four days mixed toxin treatment begun and continued every other day for five weeks. Injections into abdomen with marked systemic and very marked local reactions. Maximum dose, 16 minims. No evidence of recurrence upon discharge (Dec. 24).

Pathological Report (1211-59), Dr. W. F. Whitney. Chondrosarcoma. Small piece of firm fibrous looking tissue. Microscopical examination showed growth of small cells in rather solid masses, in places with a hyaline degeneration, and in other places a myxomatous character, in still other places an appearance suggesting softened cartilage.

Two months later returned with recurrence size of walnut below left eye. Dr. Mosher performed an extensive operation, removing part of the superior maxilla. Nine months later in good flesh and color without evidence of recurrence. A few months later, however, an extensive recurrence developed involving the orbit and patient died. Recorded in Group C.

CASE 8. (Table, Case No. 4.) Case of Dr. L. L. McArthur of Chicago. Female, age 5½ years. Sarcoma of antrum and naso-pharynx.

Pathological Report. Round cell. Toxin treatment instituted and continued three months with disappearance of growth; but this recurred in a few months and proved fatal. Recorded in Group C.

TONSIL.

CASE 9. (Case No. 13.) Round cell sarcoma of the tonsil and neck. C. W., male, age 56 years. Growths of the right tonsil and neck for two months about size of an almond and English walnut respectively. Toxin treatment continued three months. Maximum dose, 5 minims. Reactions fairly severe. Tumors began to decrease in size after first week, became softer and more movable and disappeared in five weeks. Site of injections pectoral region. No recurrence 3½ years later. Recorded in Group F.

CASE 10. (Case No. 4.) Round cell sarcoma of tonsil and neck. A. L., female, 11 years of age. Growth of right tonsil and neck of a year's duration, size of half an egg. Toxin treatment continued six months with marked softening and entire disappearance in two months. Maximum dose 3 minims. Reactions marked. Injections into pectoral region and a few into neck. Well six years, seven months after toxins discontinued. Recorded in Group F.

CASE 11. (Case No. 3.) Small round cell sarcoma of the tonsil and neck. H. M., male, 32 years of age. A growth of two weeks' duration, involving tonsil and neck, was operated upon but speedily recurred despite x-ray and radium treatment. Pathological report of recurrence, a small round cell sarcoma. Toxin treatment for about seven weeks. Reactions marked. Growths entirely disappeared in six weeks. Injections into tumor and pectoral region. Interval between operation and toxins six weeks. Recurrence in other tonsil five years later. Twice operated. Death in two months. Recorded in Group C.

CASE 12. (Table, No. 84 and *Surg., Gyn. and Obst.*, 1911, vol. xiii, pp. 184-5.) Case of Drs. Crile, McMullen, Stanton, and Coley. Male, 35 years of age. An inoperable small round cell sarcoma of the tonsil and neck. Toxins instituted with almost complete disappearance in five weeks. The dose was then reduced and in another five weeks the tonsil was of twice normal size. Second microscopic examination, round cell sarcoma. Toxins continued with entire disappearance of tumor. Doses again reduced, followed again by recurrence. Death one year after treatment started. Autopsy showed no metastases except in neck. Recorded in Group C.

CASE 13. (Case No. 14.) Small round cell sarcoma of tonsil with metastases in both sides of neck. C., male, 42 years of age. Growth of right tonsil nearly blocking up pharynx with masses in both necks. Toxins instituted with entire disappearance of growths in four months. Injections into pectoral region. Maximum dose, 20 minims. Reactions severe. One year later recurrence in submaxillary region, size of hen's egg. Removed.

Pathological Report. Small round cell sarcoma. Toxins refused. Rapid recurrence and death within a year. Recorded in Group C.

CASE 14. Personal Case. Referred by Drs. Mumford and Porter. J. H. K. House No. 177039. Fireman of 25. A large round cell sarcoma of the right tonsil, size of ping-pong ball, pushing uvula to left, and of the right neck, 6 x 5 inches.

Pathological Report. (117-52.) Dr. H. F. Hartwell. "A small bit of tissue removed from a tumor shows microscopically tumor cells infiltrating muscular tissue. The cells composing the tumor are large round with very faintly staining cytoplasm and having deep staining nuclei. There are numerous blood vessels which lie in close relation to the cells. Here and there are larger-sized cells with multiple nuclei, which are frequenly superimposed. There are a number of mitotic figures."

Treatment with toxins from July 18 to August 15, 1911. Sixteen injections. Maximum dose 18 minims. During first three weeks marked diminution in the size of the tonsil tumor, which became very fluctuant. Tumor in the neck practically disappeared. After this, despite increasing doses with

severe reactions, the tumors increased rapidly in size and the patient died Sept. 14, 1911. Recorded in Group C.

CASE 15. Personal Case. Referred by Dr. Farrar Cobb. Recurrent small round cell of tonsil and neck. A. B., Italian of 65. House records, S.S. vol. ccvi, p. 277.

Admitted Sept. 26, 1910, complaining of soreness of left tonsil for three weeks. Local physician said to have removed a "piece of wood" from this tonsil one week ago. This tonsil is now the size of an English walnut, hard, not especially tender, and without ulcerated areas. Olive-sized gland behind angle of left jaw, hard and adherent, and slightly tender. Small pea sized gland above clavicle. Sept. 29, Dr. Knowles snared large portion of tonsil and removed the rest by dissection.

Pathological Report (109-123), Dr. Whitney. Lymphosarcoma. Left tonsil enlarged to the size of a small plum, soft and extensively necrotic. Microscopic examination of piece showed a growth of small round cells of lymphoid character but without any distinct follicles, but in places clearly infiltrating between bundles of muscle fibres. In these were numerous mitotic figures.

Oct. 5. Operation, Dr. Cobb. Extensive dissection of neck for removal of mass with tying of lingual and fascial arteries.

Pathological Report (1010-24), Dr. Whitney. Malignant lymphoma. Mass of glandular tissue 4 x 2 cm., which had broken down and contained considerable necrotic material. Microscopic examination showed a growth of small lymphoid cells, which were seen to be infiltrating into the surrounding fibrous tissue. There was no normal structure of the lymph node. Recorded in Group B.

PHARYNX.

CASE 16. Personal Case. Referred by Dr. Beth Vincent Aug. 20, 1912. G. P. O.P.D., No. 124742. Italian, 47. There was a firm ulcerating mass occupying the right tonsil, floor of mouth, base of tongue, epiglottis, soft palate, and pharynx. Laryngoscopic examination impossible. He spoke only in a thick whisper and could eat only liquids and very soft solids, much of which came out through the nose. Several sections removed under cocaine.

Pathological Report (128-121), Dr. Hartwell. "Specimen consists of several pieces showing, on microscopical examination a richly cellular tumor composed of spindle cells which are arranged in narrow bands interlacing with one another and running in all directions. Spindle-cell sarcoma."

Mixed toxin treatment instituted and continued regularly for four and one-half months. Maximum dose, 10 minims. The mass softened and sloughed out cleanly. He gained in weight and color, was able to eat more food without losing any through nose, and could speak distinctly. Against advice he then insisted on returning to work. In five months he was a pale, emaciated man with metastases in the lung, neck, and belly, practically unable to eat or make self understood by speech. Died August 22, 1913. Recorded in Group C.

CASE 17. Personal Case. Referred by Dr. Crosby Greene. Round cell sarcoma of the pharynx and soft palate. M. M., male, 32. House No., 192357, 193196, 193673.

Nov. 17, 1913, admitted with history of swelling in throat of two months' duration. For past fortnight pain in right ear and "noises" in both ears. Deglutition difficult. Some dyspnea. Some difficulty in opening mouth. A somewhat pale, well built man. Teeth poor. Nose and ears negative. In soft palate a little to right of mid-line a large, hard, bluish red tumor, extending down into region of right tonsil and back into nasopharynx. Wassermann reaction negative. Oct. 17. Tracheotomy and enucleation of the tumor by Dr. Greene.

Pathological Report (1311-85), Dr. Whitney. Lymphosarcoma. An irregular piece of soft mushy tissue. Microscopical examination shows growth of small cells about size of lymphoid ones but without any regular structure.

Mixed toxins started in eleven days and continued for four weeks. Maximum dose, 3 minims. Reactions occasionally severe. Injections into growth which rapidly recurred. No appreciable effect upon this or metastases in the neck, which soon developed. Jan 5, 1914, Dr. Green excised glands of neck. Pathological report, round cell sarcoma. Recurrence occurred within two weeks. Recorded in Group A.

CERVICAL GLANDS.

CASE 18. (Case No. 7.) P. K., male, 41 years of age. Mass size of hen's egg in submaxillary region, operated upon but complete removal impossible, the tumor having involved the muscles of the neck and periosteum of the lower jaw.

Pathological Report. Small round cell sarcoma. Toxin treatment for one year with entire disappearance in three months. No evidence of recurrence 4½ years later. Recorded in Group F.

CASE 19. (Coley, Table, Case No. 6.) Recurrent small round cell sarcoma of the cervical glands. A. P., 2 years 10 months of age. After two attempts at removal followed by recurrence toxin treatment was instituted, when there was a series of tumors extending from clavicle to mastoid and also involving the axilla. Treatment continued three months with complete disappearance of all growths. Patient well twelve years later. Recorded in Group F.

CASE 20. (Case No. 11.) Round cell sarcoma of the cervical glands. H. W., male. Growth in submaxillary region size of pecan had been enucleated, followed soon after by recurrence size of a cherry. This also removed, followed within a week by diffuse recurrence.

Pathological Report. Small round cell sarcoma. Toxins started and continued for three months. The submaxillary growth had then disappeared and the other glands had not increased in size. A third attempt at removal was made, but complete operation was impossible. Toxins therefore resumed and continued nine weeks. Maximum dose, 9 minims. No evidence of recurrence seven months later. Recorded in Group F.

CASE 21. (Table, Case No. 3.) Case of Major C. G. Spencer, Royal Army Medical Corps. Small round cell sarcoma of the cervical glands. Corporal M. M., 25 years of age. Mass in left neck of a year's duration, excised, with rapid recurrence.

Pathological Report. Lymphosarcoma. Second attempt then made but incomplete, the left side of neck being filled with masses of large glands. Tox-

ins instituted and carried out in two courses of thirty-four days and one month each. Maximum dose, 8 minims. Injections into tumors with well marked local reactions. Masses entirely disappeared in one month. No evidence of recurrence nine months after treatment discontinued. Recorded in Group F.

CASE 22. (Table, Case No. 111.) Case of M. E. Green. An adult male with small round cell sarcoma of the cervical glands four times recurrent. Toxin treatment then carried out for several months with entire disappearance of growth. Patient well over three years later. Recorded in Group F.

CASE 23. (Case No. 15.) Round cell sarcoma of the cervical glands. F. W., male, 58 years of age. Removal of mass in right neck the size of a small egg, with recurrence within a month. Toxins then started and continued for eleven months. Maximum dose, 4½ minims. Reactions moderate. Tumors entirely disappeared and no evidence of recurrence four years and ten months after toxins discontinued. Recorded in Group F.

CASE 24. (Case No. 12.) Round cell sarcoma of neck. A physician. Excision of the mass in neck had been practised, followed rapidly by recurrence, which in a month had attained the size of a fist. Toxins were then started, injections being given into pectoral region, and continued for three months with progressive decrease in size and softening. Maximum dose 20 minims. Six months after toxins discontinued no evidence of recurrence. Recorded in Group F.

CASE 25. Personal Case. Referred by Dr. Farrar Cobb. Multiple small round cell sarcomata. M. C., housewife of 55. House No. 186421.

Dec. 7, 1912. Six months ago began to have severe frontal headaches. Four months ago small hard swelling on right side of nose near bridge, which has gradually and painlessly increased in size. Three months ago mass discovered in front of right ear, which has also gradually and painlessly grown. About the same time a mass appeared just above right clavicle and another in right neck. A vigorous, somewhat obese woman with mass size of cherry on right side of nose, boggy to firm consistency, and firmly fixed. In right parotid region mass extending from zygoma over angle of jaw into neck and forward to region of submaxillary gland. Behind right sterno-mastoid muscle several pea to bean sized glands. In front and behind left sterno mastoid muscle, several small glands also palpable. In right supraclavicular region a firm and freely movable swelling the size of a pigeon's egg.

Excision of several glands for diagnosis.

Pathological Examination (1212-45), Dr. Whitney. A packet of enlarged lymph nodes with homogeneous section. Microscopical examination showed normal structure of lymph nodes lost and a growth of small lymph cells size of lymphoid ones with numerous mitotic figures. Considerable hemorrhage throughout growth. On the edge it was sharply circumscribed and a similar growth was found infiltrating the surrounding fat tissue.

Toxin treatment started Dec. 17 and continued every two or three days until Feb. 15, 1913 (2 months). Maximum dose, 13 minims. Reactions very severe. During the first month of treatment the mass in the right parotid region diminished very markedly. The mass over the clavicle became smaller. The mass on nose became softer. Despite these results a growth was developing in left submaxillary region and, although attacked vigorously with toxins, was not affected but grew steadily in size. The mass in right neck, however, practically disappeared. Toxins omitted. X-ray instituted. Patient died with metastases in abdominal wall, chest, and both breasts, in four months. Recorded in Group D.

CASE 26. (Case No. 16.) Round cell sarcoma of neck. L., male. Attempted removal of lympho-sarcoma of the neck with recurrence.

Toxins started, and after two months tumor had disappeared. Toxins continued four months longer. During the last two months of this period a recurrence had appeared which soon produced metastases in the axilla and abdomen. Patient died within a year. Recorded in Group C.

CASE 27. (Table, Case No. 26.) Case of J. A. Moore of Helena, Montana. Round cell sarcoma of the cervical glands. Female, 31 years of age. In January, 1894, unfiltered toxin treatment started for multiple supraclavicular masses. Treatment continued one month with entire disappearance of growths. These, however, soon recurred. Recorded in Group C.

CASAE 28. (Table, Case No. 104.) Case of Dr. G. H. Muller of Philadelphia. A male with inoperable recurrence of lympho-sarcoma of the neck one month after attempted removal. Toxin treatment resulted in complete recovery. Patient remained well for four years, when local recurrences and intra-abdominal metastases appeared. Recorded in Group C.

CASE 29. (Table, Case No. 16.) Small round cell sarcoma of neck. Case of Dr. J. Collins Warren (B. M. and S. J., 1896, cxxv, pp. 673-674.) 45 F. Attempted removal of growth of submaxillary region unsuccessful.

Pathological Report. Small round cell sarcoma. Recurrence in two weeks. Under unfiltered toxins for three months with marked reactions. Entire disappearance of growth. Recurrence in three months. Recorded in Group C.

CHEST WALL.

CASE. 30. (Case No. 33.) Spindle cell sarcoma of left half of thoracic wall. S. C., female 16 years of age. Tumor had appeared in left scapula region four months previously, had grown rapidly frontwards to the sternum and measured thirteen inches in breadth and two inches in thickness in the most protuberant part.

Pathological Report of the specimen, spindle cell sarcoma. Toxin treatment was started and continued for four months; injections into tumor. Whole mass entirely disappeared in three months. Patient in good health with no evidence of recurrence nineteen years later. Recorded in Group F.

CASE 31. (Table, Case No. 28.) Case of W. H. Battle of London. Fibrosarcoma of the chest wall. Male, 30 years of age. Toxin treatment undertaken for extensive growth in the pectoral region with masses in axilla above and below clavicle. Treatment continued four months with "almost complete disappearance." Well one year later. Recorded in Group E.

BREAST.

Case 32. (Case No. 58.) Inoperable spindle cell sarcoma of the breast and axilla. Toxin treatment instituted for mass size of orange in left breast. Adherent to deep parts and extended into axilla. Section removed for examination.

Pathological Report. Spindle cell sarcoma. Entirely disappeared after 78 injections. In good health without trace of recurrence 18 years later. Recorded in Group F.

Case 33. (Case No. 54.) Recurrent angio-sarcoma of breast. A. C., 59, female. Thrice recurrent angio-sarcoma of breast. Toxin treatment instituted when mass extended laterally from sternum to anterior axillary line and from clavicle above nearly to costal margin below. It was fixed to chest wall, composed of markedly protuberant nodules and considerably ulcerated. Treatment continued eight months attended by softening and progressive diminution in size of tumor. Mass then excised. No pathological report given. Seen eight years later with fractured femur. No evidence of former trouble. Recorded in Group E.

Case 34. (Case No. 53.) Small round cell sarcoma of breast. K., 22, female. Four operations had been followed by recurrence. Toxins started and shortly afterward a fifth operation was performed. Toxins continued for three months. Recurrence again evident and removed. Seven and one-half years later patient in good health with no sign of recurrence. Recorded in Group C.

ABDOMINAL WALL.

Case 35. (Case No. 73.) Spindle cell sarcoma of abdominal wall. H. L. G., female. Exploratory operation showed a tumor of four months' duration to be inoperable. It involved the entire thickness of abdominal wall and some of bladder wall.

Pathological Report. Spindle cell sarcoma. Toxin treatment continued three months with entire disappearance of growth. Patient well 12 years 3 months later. Recorded in Group F.

Case 36. (Case No. 57.) Spindle cell sarcoma of abdominal wall and pelvis. J. F., 16, female. Growth of abdominal wall 7 x 5 in., apparently involving entire thickness, attached to pelvis, and from symptoms and position evidently involving bladder. Section removed.

Pathological Report. Spindle cell sarcoma. Mixed toxin treatment for about 4 months with disappearance of growth and improved general condition. No recurrence 19 years 7 months later. Six years after toxin treatment patient developed primary lesion of syphilis, which was cured by appropriate treatment. Recorded in Group F.

Case 37. (Case No. 64.) Spindle cell sarcoma of abdominal wall. M. S., 18, female. Tumor of several months' duration of abdominal wall proved upon exploratory laparotomy to be both intra- and extra-peritoneal, but not connected with abdominal organs.

Pathological Report. Spindle cell sarcoma. After 30 injections of filtered toxins tumor disappeared. Reactions mild. Maximum dose, 6 minims. Patient well and without recurrence 1½ years later. Recorded in Group F.

Case 38. (Case No. 2, p. 138.) Spindle cell sarcoma of abdominal wall. Case of Major C. G. Spencer of Royal Army Medical Corps. Female, 53. Growth of suprapubic region extending from pubes to within 1½ inches of umbilicus and 3 inches broad. Section removed.

Pathological Report. Spindle cell sarcoma. Attempted excision followed by immediate recurrence. Toxin treatment for about 3 months started 17 days after operation. Maximum dose, 6 minims. Tumor disappeared. Patient well 5 years later. Recorded in Group F.

Case 39. (Case No. 55.) Fibro-sarcoma of abdominal wall. E. G. L., 28, female. Exploratory laparotomy revealed inoperable growth.

Pathological Report. Fibro-sarcoma. The mass extended into the abdomen, filling the right lower quadrant. Toxins started two months later and continued for ten weeks with disappearance of mass. Seventeen years later an abdominal hysterectomy was performed for fibroids. The abdominal wall was found normal and no trace of sarcoma was seen in the abdomen. Two years later (19 years after toxin treatment) patient still well. Recorded in Group F.

Case 40. (Table, Case No. 97.) Round cell sarcoma of the abdominal well. Case of Dr. Paul Pilcher. Male, 55. An exploratory operation revealed an inoperable growth of the abdominal wall. Section removed.

Pathological Report. Round cell sarcoma. Toxin treatment for four months with gradual and complete disappearance of the tumor. Well one year later. Recorded in Group F.

(To be continued.)

Medical Progress.

PROGRESS IN BIOCHEMISTRY.

By A. Everett Austin, M.D., Boston.

AMINO-ACIDS.

Abderhalden[1] has been able to discover amino-acids in blood and blood serum, and to identify some of them. Since the separation of such acids has been accomplished in various ways, there can be no doubt whatever that free amino-acids are present in the blood. The methods of isolation, many of which are original with Abderhalden, are described in full.

Cammidge[2] estimates the amino-acids in the urine of diabetics by determining the total free ammonia according to Folin's method and the ammonia plus amino-acids by Marfatti's method (Formol titration); the difference is the measure of the amino-acid ammonia. This can be utilized for treatment and prognosis of the disease. In mild cases of diabetes no amino-acids are found, in severe forms they may amount to 0.5 gram per day; often they disappear when

the food contains no protein. In other cases they do not, under which conditions the prognosis is much more unfavorable.

Labbe and Bith[3] have estimated the amino-acids in the urine of 120 individuals and, based upon this, came to the conclusion that whenever the functions of the liver are impaired, there is an increase of these acids in the urine. This increase is always an indication of the insufficiency of the liver in metabolizing the ultimate products of protein disintegration. In diabetes, with disturbances of nutrition and acidosis, this increase is the rule. In all other diseases where the destruction of the body's protein is rapid, and those ferments which separate the amino from the carboxyl molecule are weakened (pneumonia, leukemia, cancer and typhoid), the amino-acids are always found in the urine in much greater quantities.

The ability of the animal mechanism fully to synthesize the component parts of the protein molecule, when fed to it as fully split amino-acids, has been shown by Berg and Cahn-Bronner[4], who have shown that the liver cells of animals thus fed exhibit exactly the same droplets as those fed on unsplit protein. These droplets possess all the characteristics of unmodified protein and never appear when fat or carbohydrates are fed; thus they have been able to demonstrate by the totally new method (histologically) the same fact as has been shown by metabolic experiments, the full synthesis of amino-acid.

BLOOD SUGAR.

Bing and Jacobsen[5], using the method of Bang, have made a large number of estimations of sugar in the blood of healthy individuals, as well as in that of those suffering from many varied diseases. They claim that blood sugar of the normal person varies from 0.06 to 0.12%, with an average of 0.1%. After the ingestion of 100 grams of sugar, healthy individuals may react by an increase in the percentage, or may not. This is also true of many after any kind of carbohydrate food. Persons suffering from renal disease invariably have a glycosuria, which does not depend upon the greater blood sugar present, but upon some unknown factor. In diabetes there is not only an increase in the blood sugar after food, but also while fasting. There is no direct relation between the blood and urine sugar. Glycosuria may occur without hyperglycemia, due undoubtedly to a renal influence. The estimation of the blood sugar is of great value in prognosis, since, if there is no increase of blood sugar, though sugar may be found in the urine, it is a favorable omen.

INTESTINAL PUTREFACTION.

Rodella[6] has attempted, by experiments on small animals, to determine the toxicity of stools in case of intestinal disease. His method was to make a suspension of a gram of feces in five c.c. of sterilized water and then inject the same into a rabbit hypodermatically. A control was first made of the stools of normal individuals, both adults and infants. It was found that one gram of feces from a healthy individual will not cause the death of a rabbit. On the contrary, when there existed intestinal catarrh, of whatever origin or grade, whether accompanied with constipation or diarrhea, a gram of the feces proved fatal within a few hours when injected. Some individual peculiarities were noted, as follows: The infant's stools proved much more toxic than those of the adult; the degree of intestinal putrefaction cannot always be told by the effect of the fecal suspension when injected, but one can always differentiate between pathological and bland cases; furthermore, it is possible to detect latent tuberculosis in this way much earlier than in any other manner; there is no relation between the toxicity of the stool and its putrefactive changes. Some with no putrefactive products (indol, skatol, etc.) are extremely toxic, and others charged with these products are not at all poisonous.

GALACTOSURIA.

The utilization of lactose in watery solution, according to the experiment of Draudt[7] on dogs with an Eck fistula, is reduced to 58% and of galactose to 21%, the remainder appearing promptly in the urine. Hence the liver holds a special power of converting these sugars into glycogen, a trait not possessed by other tissues of the body. Therefore a galactosuria indicates a more or less extensive separation of the hepatic cells from the portal circulation. During this alimentary lactosuria and galactosuria the sugar content of the blood is found increased. Its clinical application in hepatic diseases has not yet been demonstrated by the author. On the contrary, Maliwa[8] believes that galactosuria is dependent upon both the liver and the kidneys. The liver determines the concentration of galactose in the blood. When its sugar-converting power is disturbed, with a normal absorption in the intestine, the concentration in the blood rises above the limit to which the normal kidney is adjusted. When the liver is normal, then a disturbance in the eliminating function of the kidney may allow the galactose to pass through into the urine, when the concentration of the blood is still within the limit established for the normal kidney. The quantitative application of the galactose test for impaired liver function must always be employed according to Woerner and Reiss[9]. Galactose must be given in doses of 40 grams, and when 3 grams or more of this appears in the urine it demonstrates a pathological condition of the liver. One hundred grams of levulose, however, must be taken, when if more than 0.7 gram is eliminated, the same conclusion is justifiable.

CHOLESTERIN.

Much interest has been aroused in the peculiarities of the cholesterin metabolism, and Picard[10] has shown that, during violent exercise, the amount of this in the blood serum may become increased or diminished, but that whatever change takes place the opposite extreme always occurs in the adrenal capsule, so that a reciprocal relation always exists in these two as to their cholesterin content. This work has been carried still further by Havers[11], who, by experimental evidence, has demonstrated that the bile becomes much richer in cholesterin during hypernutrition, especially when the excess is made up largely of protein and fat. By restriction of food, fever and pregnancy, the amount of cholesterin becomes much lessened. After the birth of a child, however, the mother's bile becomes rapidly richer in cholesterin. Landau[12] has confirmed Picard in establishing the adrenals as the organs for the storage of cholesterin, which makes them a necessary intermediate agency in its metabolism. The human liver contains only insignificant quantities of cholesterin, and hence cannot be regarded as a depot for its storage. The spleen, lymph glands, and bone marrow also participate in the reception and metabolism of cholesterin.

METABOLISM OF IRON.

After a large amount of experimental work, Bayer[13] has reached the conclusion that the spleen retains and holds the iron which becomes free from the breaking down of the cells of the body and prevents hemolysis. Furthermore, it utilizes this iron in the building of new cells, especially of hemoglobin. This organ also produces a hormon that paralyzes the autonomous system; when this hormon is eliminated, its influence is shown negatively by an increase in intestinal peristalsis. The spleen and thymus have a mutual compensatory action. That the quantitive estimation of the urine iron provides no measure of the destruction of blood in pernicious anemia, has been shown by Queckenstedt[14], since its elimination by the kidneys is entirely independent of the iron metabolism in the body; the fecal iron also shows no relation to the rapidity or extent of the destruction of blood corpuscles. After removal of the thymus glands, the splenic function is much increased, and vice versa; the increased function of the thymus demonstrates itself in symptoms of an exaggerated vagotonus. The increased destruction of iron-containing cells after splenectomy is shown by a lessened erythrocyte count and hemoglobin, in a lymphocytosis and eosinophilia. In Banti's disease there is a severe check to the activity of the spleen, much as in myelolytic leukemia. In both cases, however, there is marked alteration in one function, not in all the activities of the spleen. In Banti's disease, after operation, the conditions are exactly the same as in a splenectomized normal individual

URIC ACID.

Graham and Poulton[15] have found that not only does the endogenous uric acid diminish when the protein food is removed from the diet, as was shown by Folin, but also that a similar diminution occurs when the carbohydrate food is withdrawn. From these facts they attempt to construct an hypothesis of the formation of this acid by synthesis of protein and carbohydrates.

Much discussion has been aroused as to the state of the sodium urate in super-saturated solutions. Kohler[16] adds to this by experimental evidence that, by means of dialysis and electrical conductivity, he has proved sodium urate is not in a colloidal state in such concentrations, but in a true solution though a super-saturated one. In urine also there is a similar solution from which the natural weakly acid reaction sets no uric acid free, while, here, there is no equilibrium between urates and uric acid, since the conditions for solution are much more favorable.

From the investigations which Bass[17] has conducted, he is assured that atophan does reduce the amount of uric acid in the blood. He attributes this to the action of atophan in stimulating the uric acid excreting power of the kidney. The question is then open as to whether this increased elimination comes from a more active formation or from a stored up supply. Hopes are offered that, by a more accurate estimation of this substance in the blood this matter may be decided.

By transfusion of the livers of dogs, Rosenberg[18] has learned that it is possible to extract purin bodies, even when the dog has been kept on a purin-free diet; in fact there are two ways in which to vary the amount which can be extracted: first, before the transfusion by variation of the exogenous purins, the amount may be increased when the dog has been fed on nuclein-containing food and diminished on nuclein-free food; secondly, during the transfusion, when the quantity may be increased by the addition of atophan or adrenalin to the transfusing fluid. The increase under the influence of these drugs may sometimes be more than a half of the total daily purin output of the animal. His conclusion is that atophan mobilizes uric acid.

Working with the colorimetric method of Folin[19], Steinitz has been enabled by his (Steinitz's) modification to estimate accurately and easily the uric acid in 10 c.c. of blood. His results show that the endogenous uric acid amounts normally to 0.02-0.04 parts per thousand, while that of the gouty individual increases to 0.04-0.075 per thousand. Great emphasis is laid on the diagnostic value of this increase, though one should not rely upon this factor alone for a diagnosis of gout.

TESTS FOR EARLY DIAGNOSIS OF GASTRIC CANCER.

The glycyl-tryptophan test has been subjected by Hauschild[20] to a rigid revision, who found that of 26 cases of benign achylia, 11 gave posi-

tive reactions (splitting of the amino-acid and detection of free tryptophan). His explanation is that gastric juice contains trypsin much oftener than supposed, but the enzyme is destroyed when any considerable amount of free hydrochloric acid is present. In one case reported of proven cancer, with a free hydrochloric acid of 16, the test was negative. Further, 28 cases of certain gastric cancer, proven either by a mass or by laparotomy, were tested and 19 gave positive reactions, while 9 were negative. Hence he comes to the conclusion that the test is associated, practically, with so many errors that it cannot be relied upon for an early diagnosis of cancer.

The quantitative determination of the dissolved albumen in gastric content extract, according to Wolff-Junghans, has been studied by Smithies[21], who found that only 80% of true gastric cancer gave this test, while in benign achylias none responded to the test.

The detection of dialyzable digestive products, which we also hoped to be diagnostic of cancer, has been found by Wasserthal[22] to be common in achylias. In gastric ulcers with hyperchlohydria the test has also been found positive, but very faint.

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Book Reviews.

Urgent Surgery. By FÉLIX LEJARS, Professeur Agrégé à la Faculté de Médecine de Paris; Chirugien de l'Hôpital Saint-Antoine; Membre de la Société de Chirurgie. Translated from the seventh French edition by WILLIAM S. DICKIE, F.R.C.S.; Surgeon North Riding Infirmary, Middlesbrough; Consulting Surgeon, Easton Hospital. Third English impression. With 20 full-page plates and 1086 illustrations, of which 739 are drawn by Dr. E. Daleine and A. Leuba, and 198 are from original photographs. Vol. I: Introductory, Head, Neck, Chest, Spine, Abdomen. New York: William Wood and Company. 1914.

This is the first volume of the third English impression from the most recent seventh French edition. The author says: "The book has again been minutely revised and extensively remodelled. It has not been enlarged, though this edition contains five new chapters on acute dilatation of the stomach, acute pancreatitis, obstruction of the mesenteric vessels, sigmoiditis and perisigmoiditis, and dislocation of the pelvis, many technical changes and new methods, and 92 additional figures; but on the other hand, many of the old figures have been reduced in size, most of the photographs eliminated, and the text in places abridged."

This new edition of a well-known book is admirable. Previous favorable criticisms must be repeated. The book is essentially French. It is, after all, practically a manual of operative surgery, since all surgical procedures are, now-a-days, at least, potentially urgent. Most of its references are to French and continental authorities. No mention is made of the exceptionally efficient American bone instruments. There are, it is true, a few references to articles written by American surgeons, but they form a very small proportion. This is, of course, not necessarily a disadvantage, for the American reader is naturally familiar with American literature, and glad to get a large number of references to continental authorities.

The printing of the book is equal to the best that we have come to expect from the American Press, and the volume is lavishly illustrated by accurate and artistic pictures, essentially French in detail and finish.

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Ernest Gregory, *Manager.*

126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts.

THE QUESTION OF EARLY MARRIAGE.

In the issue of the Journal for January 28, we published an editorial on "The Biologic Aspects of Early Marriage," in which we referred to the offer of a reward of $200 by Caspar L. Redfield of Chicago, for the reporting of human cases "where rapid breeding led to good results from an intellectual point of view." The time limit of this offer expired without the production of evidence of the kind required, but at the annual meeting of the Council of the American Genetic Association it was voted that, the question being still open, Mr. Redfield be invited to extend his offer for another year. This extension was granted and the offer is now open until December 31, 1915.

In our previous editorial we commented at length on Mr. Redfield's position as evidenced in his paper on "The Results of Early Marriage" in the *Journal of Heredity* in July, 1914. This position is further discussed in another contribution on "The Early Marriage Question" in a later issue of the same publication. In support of the contention in favor of the twenty-five year generation, as made in the Journal, is cited an article by R. H. Johnson in the *Journal of Heredity* for March, 1914.

"Suppose a generation to be 25 years or 33 1-3 years respectively in two different stocks, and that all persons marry and each couple have four surviving children, or two for each parent. The result is that the 25-year stock constitutes two-thirds of the population at the end of a century."

"By a combination of these two causes (to which might be added the lower death-rate claimed among the children of young parents), the result is, as Galton says, that 'if the races best fitted to occupy the land are encouraged to marry early, they will breed down the others in a very few generations.'

"Something similar has happened in New England and many other regions, where a fertile foreign stock, marrying early, has nearly supplanted the earlier stock. The fact has frequently been a text for eugenic sermons."

It was in reply to this paper that Mr. Redfield's offer was originally made, he holding the converse position. Among the pedigrees submitted in competition for this offer were several by J. B. Nicklin, Jr., of Chattanooga, Tenn., including those of the present royal families of England and Germany, the Austrian, Swedish and Danish royal families, the Washington, Lee, Taylor and Hamilton families of America. Mr. Nicklin believed that these proved the production of four, five and six desirable generations in a century. Mr. Redfield, however, did not regard these data as fulfilling the terms of the offer, his objections being as follows:—

"First, the persons named are not among 'the 2000 or 3000 intellectually eminent men known to history,' whose names are recorded in ordinary encyclopedias because of intellectual achievements. Not all royal personages noted in cyclopedias are there because of their intellectual superiority.

"Second, the pedigrees given are neither complete pedigrees, nor in the tail-male lines for partial pedigrees.

"The generations of the offer are periods of time between parent and offspring. Except in the last case, you give four such periods, and consequently four generations, instead of five, as you represent it.

"Examples of breeding much more rapid than those you give are quite common, as among the 'Jukes' and other degenerate families of the United States; also in Asia, Africa and Polynesia. Marriages between boys less than 17 and girls less than 15 are the ordinary thing in many places. But the trouble with that kind of

breeding is that it does not produce superior individuals. When we come to the greatest men, they are not produced when the breeding is as rapid as three generations to the century. My money offer was for the purpose of finding any possible exception, if it existed."

Other similar pedigrees were submitted by Mrs. Elizabeth Sourdry of St. Louis, Mo. The following were Mr. Redfield's objections and comments on her material:—

"The first objection is that these men are mental mediocrities and not intellectual giants. William II is prominent because he inherited the position of emperor, but he has to his credit no intellectual achievements. If you are going into royalty I think that you should take such men as Augustus, Peter the Great or Gustavus Adolphus.

"Consider Moses, who not only controlled an unruly mob but who formulated moral laws and regulations which are good after nearly 3500 years.

"Consider Confucius, whose intellect produced the moral precepts which have guided hundreds of millions for more than 2500 years.

"Consider Aristotle, who was the main scientific authority for the world for more than 1000 years.

"Imagine a sickly little fellow sitting in Washington and changing this republic into a monarchy by the sheer force of his intellect. Imagine his influence with Congress being so great that the country would officially confer on him a title certifying the profound respect all entertained for his surpassing wisdom. That would be Augustus of Rome."

After careful consideration of the letters submitting these two groups of data, the council of the American Genetic Association decided that the requirements of the offer had not been fulfilled. Subsequent to this decision Professor Johnson further submitted a letter reiterating his position, in part as follows:—

"Mr. Redfield is quite safe in holding that in illustrious stocks the generations are long. It is just this that I contend calls for remedy. To conclude from this, however, that late children are superior mentally is wholly unwarranted. Such late births will still be found to be prevalent with the superior, irrespective of whether late children shall be shown to be equal or superior to early children from the same parents. The reasons for these delayed marriages and births are now too familiar to call for repetition here.

"May I in turn suggest to Mr. Redfield a sound method of testing his hypothesis? Ascertain the number of brothers and the ordinal position among these of all the men in some standard collection of the names of illustrious men which will furnish the desired information. Sisters, owing to the different chance of becoming renowned, and half-brothers and step-brothers are not to be admitted. Compare the age of the parents at the birth of the most illustrious with the average age of his brothers in each family. Aside from this, even if Mr. Redfield's hypothesis prove correct, is is still true that inferior stocks are producing more early children as well as children in general than are the superior stocks. The mere lengthening of the generations of all stocks will not change the ill-balanced production of the next generation. It is necessary to increase the reproduction of the superior relative to the inferior, no matter to what other device resort may be had. Later marriage of the superior as compared with the inferior is, therefore, necessarily dysgenic."

As a matter of fact it seems that probably Professor Johnson's position is more fundamentally sound than that of Mr. Redfield's, though his contentions cannot be considered as yet proved. What is really desirable is not the production of the largest number of individuals of intellectual or other eminence, but of a community with a minimum of defectives and a maximum of physically and intellectually wholesome individuals of the most durable and most highly potential stock. The precise method by which this may be attained is yet to be determined, if indeed it be determinable otherwise than by slow and natural evolutionary processes.

A NEW ERA IN CHINESE MEDICAL EDUCATION.

So intently has the spirit of scientific medicine in America centered its attention on Europe in matters of professional regard, that affairs of epochal importance may occur in other parts of the world without the merest recognition. In spite of the rapidly developing relations between China and America, the medical profession of America has kept itself comparatively uninformed of medical progress and conditions, as well as of medical opportunities in China. It is *a priori* true that the medical future of China and her advance in paths of sanitary and public health reform, are bound up in the development of a native Chinese school of medicine, which, having been trained by the West, shall be able and eager to apply that training, under most favoring circumstances of popular support, and

knowledge of local conditions, to the upbuilding of Chinese social and sanitary life. Western medical education in China has been thus far a protegé of the missionary movement, and while the Chinese government and local institutions have made various more or less successful attempts, various defects have to a great extent nullified both types for effective service.

There has, however, within the past year been put in operation a plan for medical education which avoids the defects of both the older systems and which has many advantages they could never claim. At the biennial convention of the China Medical Association held at Shanghai, Feb. 1 to 5, 1915, Dr. F. C. Yen (Yen, F. C. An Example of Coöperation with the Chinese in Medical Education) described the plan and inauguration of the Hunan-Yale Medical School at Changsha in Hunan Province in Central China. Dr. Yen is a senior member of the medical staff of Yale-in-China. Because of his Western professional training and his influential relations in China, he combines in a singular degree the advantages of modern scientific ideals and of leadership with the Chinese. The Hunan-Yale Medical School exists under a coöperative contract between Yale-in-China and the Hunan provincial government. The peculiar advantage of such coöperation lies in the fact that it enlists the good will of the Chinese, removes suspicion by making them partners, secures indispensable practical aid, and gives the institution permanency.

Dr. Yen describes the seven years of preparation for this agreement on the part of Yale by an unvarying policy of cultivating the friendship and confidence of the Chinese. The result was that the announcement in 1913 of a large gift in America for a new Yale Hospital was followed at once by a petition from the Chinese that Yale-in-China should coöperate with the provincial government in a scheme for medical education in Changsha. "On their own initiative, over eighty of the prominent gentry of Hunan, led by provincial officials, sent a joint petition to the governor, requesting him in the name of the Hunan government to enter into a working agreement with Yale for the immediate establishment of a medical school. This request was granted and the agreement was signed in July, 1913, between Yale on the one side and the governor representing the Hunan government on the other. Thus was born the Hunan-Yale Medical School."

Under this agreement, provision was made in addition to a medical school, for two nursing schools for men and women respectively, a teaching hospital, and a research institute for the investigation of public health problems and diseases peculiar to China. The government undertakes to provide school buildings to cost $156,000, Mex., nine acres of land valued at $50,000, Mex., and an annual sum for maintenance of $50,000, Mex. Yale's share is to supply a hospital costing $150,000, gold, and a staff of fifteen doctors. To avoid establishing a precedent which might be turned to ulterior ends by other persons wishing to make direct contracts with provincial governments, the Peking government required that the Hunan-Yale agreement should be drawn between Yale and an incorporated association of Chinese, including the provincials and representing the provincial government. The obligations of this association are borne by the government.

The institution is controlled by a board of twenty trustees, half Chinese and half from Yale. An executive committee of seven transacts current business. The contract is to last ten years on trial, and if found satisfactory, is then to be subject to indefinite extension. The Chinese members of the board of trustees have voluntarily placed entire authority in technical matters with the Yale medical staff. They have also insisted that English must be the teaching language of the school.

The Hunan-Yale coöperative agreement for medical education has undergone severe testing and is the stronger for it. It has twice been submitted to the cabinet of Yuan Shih-kai and twice approved. It has been approved and supported by three successive governors of Hunan province. It has received formal sanction and approval from the Boards of Education, Finance, and Foreign Affairs of the Chinese national government. It has been supported by two parties of opposite political views in Hunan. The government has paid $20,000 of the first instalment and has given outright buildings valued at $50,000, Mex., for the use of the school and hospital, pending the erection of permanent buildings. A medical preparatory course and the two nurses' training schools are now in operation, and the Yale Hospital is under the control of the joint board.

It is significant that the Hunan-Yale medical agreement has been inaugurated at the initiative of the Chinese in a province which is perhaps the

most independent and haughty of all China, and that it is being supported with enthusiasm and loyalty by the Chinese. It is entirely without precedent in China and marks the inauguration of a new era in the medical development of China. Dr. Yen closes his paper with the significant words: "The time has come when coöperation with the Chinese is no longer an idle dream, but may be materialized in fact. The Chinese are getting to know the foreigners better and are prepared to unite with them in such movements as this. But the initiative must come from the foreigners. Where coöperation is sought it is given, but the degree of success must necessarily depend on the spirit in which it is entered. In proportion to the fairness, loyalty and enthusiasm of the foreign party, will be the cordiality, interest and support of the Chinese."

THE MEDICAL EXAMINATION OF TRANSPORTATION OPERATORS.

THE really great progress made in the perfection of mechanical contrivances in recent times, has given a false sense of security in trusting the safety of operation to the automatic in mechanisms, and in neglecting the human physical element almost entirely. This is the ideal in mechanics but it disregards the fact that human physical development and human acuity and refinement must keep pace with the mechanical refinements, and that the latter is the outgrowth of the former. The highest degree of safety in the operation of mechanical devices is attained only with a high degree of human efficiency and refinement. The more accurate and the finer the instruments, the more delicate must be the human forces which control them. The greater the force put into harness by mechanical genius, the greater element of destruction it may become unless under the control of the most perfect physically and the most well-balanced mentally that advanced regulation can enforce.

This indication has been long recognized and in a measure been met in navigation, especially in the matter of visual acuity and color perception of those actually engaged in the navigation. The perception of red and green is of the utmost importance because these colors are used to indicate danger, safety and direction. Blindness to these colors makes navigation almost impossible. The control of the navigable waters by the central government allows uniformity of examination of navigators to see that the visual and color requirements are carried out. The color and visual requirements are rather gross and should not embrace the only attempts at the selection of human fitness comparable with the mechanical magnitude.

The alarming increase in land transportation disasters calls attention to the fact that railroad and other vehicles do not have even the little regulation that navigation has, even though transportation on land is as great as, if not a greater medium than, on water. To require a pilot to conform to the color and visual requirements when his field of operation is wide, his speed comparatively slow, and with assistants usually many, should require engine and other transportation operators, who control mechanisms of high speed and higher destructive power, to conform likewise to a uniform standard of fitness, maintained by constant supervision. This should apply to automobile operators who run between the States. All forms of transportation which engage in interstate traffic of any kind are under the control of the central government, which has sole and plenary powers in such matters. All persons, therefore, engaged in the operation of vehicles in interstate traffic should be required to undergo periodic examination by medical officers of the Public Health Service, who already conduct the examination of navigators. And the enlargement of the physical requirements, to embrace not only the visual and color elements, but all physical and mental elements, would guarantee the highest efficiency and the greatest safety.

Evidence of alcoholic indulgence should be a bar to license. The heat and the stress of a "run" of locomotive operators react badly on those addicted to alcohol, either steadily or dipsomatically. Many examples of poor judgment, ignoring of signals, physical inability and exhaustion would be eliminated. In this respect the Navy has set an excellent example. Alcoholic sclerosis and the allied mental phenomena and the consequent instability are not compatible with work of this nature.

A mental examination would in many cases detect incipient paresis and other forms of psy-

choses which must be large elements in inefficiency of operators.

Legislation for the uniform control of the operators of vehicles engaged in interstate traffic is a logical measure of progress—no issuance of license or renewals except after successfully passing a rigid medical examination. This should include the physical, taking into consideration the kind of vehicular operation engaged in, and emphasizing cardiovascular scleroses; a mental examination for all forms of mental aberration, but especially general paresis, alcoholic and drug intoxications and psychoses. The time may come, let it be hoped in the near future, when persons will be barred from these occupations because temperamentally unfitted.

THE IMPORTANCE OF PREGNANCY CARE.

The lowering of the rate of infant mortality everywhere that special attention has been given to it, although in itself very encouraging, should not blind us to the immense amount of loss of life which is never recorded at all, as from abortion and miscarriage; or but scantly noticed, as in the high percentage of stillbirths which pass unconsidered in reckoning the death-rate. In every hundred pregnancies probably at least 10% fail of fruition, and between 30 and 40 children out of every 1000 are born dead. Without counting these stillbirths the deaths of children during the first month of life amount to between 35% and 40% of the total deaths occurring in the first year, and the greater part of these early deaths are due to prenatal causes or to accidents of childbirth, most of which are preventable.

The value of pregnancy care is shown very graphically by the statistics for five years of such work, given in the last report of the Committee on Prenatal Care of the Women's Municipal League of Boston, for, as this committee gave no obstetrical care to patients until after the date of this report, pregnancy care may fairly be considered as being largely responsible for the results. One nurse alone was employed, as the work has always been carried on as an experiment,—to test methods rather than to accomplish results on a large scale.

Cases carried safely to labour	1512
Death during labour	0
Deaths during childbirth	9
Percentage	.6%
Miscarriages	3
Percentage	.19%
(No miscarriage has occurred during the past 3½ years.)	
Babies born	1522
Average birthweight including premature babies	7 lbs. 11 oz.
Premature babies including twins and still births, percentage	1.7%
Stillbirths including premature births for two years	1.8%
(Less than half that of the rest of the City of Boston.)	
Deaths of babies born alive but dying in first month	43
Percentage	2.8%
Deaths of babies born alive but dying in first month throughout Boston, percentage	4.3%
Cases of eclampsia	4
Percentage	.2%
Cases of impending eclampsia—diagnosed as such by hospitals and physicians.....1st year	60
Steadily decreasing until these number in the 5th year	2

Although no care has been taken of patients by the committee after the onset of labor, one visit has been paid at the end of a month after the birth of the infant to ascertain the method of feeding and the condition of the child. The results follow:—

Breast-fed, wholly, percentage	84.7%
Breast-fed, partly, percentage	4.5%
Total	89.2%
Bottle-fed	10.8%
Well at the end of month, breast fed wholly	97.5%
Well at the end of month, breast-fed partly	92.3%
Well at the end of month, bottle-fed	72.4%

These figures speak for themselves and further comment is unnecessary.

ANNOUNCEMENT.

We desire to call the attention of our readers to certain alterations and, we believe, improvements in the current literature department of the Journal. Beginning with this issue, the custom is abandoned of reprinting the table of contents of each periodical reviewed, in the belief that this repetition is really not of sufficient value in proportion to the space it requires. Instead, the entire space available for current literature is, and will

be, devoted to the publication of more elaborate and carefully prepared abstracts of selected articles, each under the title of the article, with reference to its place of publication. Further, these abstracts are grouped under appropriate departmental headings, so that these columns will present, each week, a comprehensive topical survey of the field of recent medical literature. The method thus adopted is essentially that which has proved successful in the English and other foreign medical publications.

After careful consideration, it has been determined to place the current literature columns in the advertising pages of the JOURNAL. It has been called to our attention by various readers that, to them, the value of the current literature abstracts lies chiefly in clipping these abstracts from the JOURNAL to file in a permanent index or card catalogue form. With the current literature in its former position in the body of the text, this could not be done without mutilating the JOURNAL and making it unfit for subsequent binding and permanent preservation. By placing the current literature in its new position, this clipping is made possible without such mutilation of the permanent portion of the JOURNAL. It will be observed also that the columns are so arranged that no two abstracts come back to back, so that all may be clipped without injury to any.

We believe that the value of current literature abstracts is greater for such use at the time of publication than for binding with the JOURNAL after the original material which they represent has passed into medical literature and is fully recorded in bibliographies and indices. Moreover, to place the current literature department in this way is an aid in maintaining and raising the high ethical standard of advertising which the JOURNAL has undertaken to observe. We believe that such a mode of arranging and displaying the current literature abstracts will make them in every way more attractive, serviceable and valuable to our readers.

MEDICAL NOTES.

RED CROSS TUBERCULOSIS FUND.—Report from Washington, D. C., on Feb. 26 announces that the sale of Red Cross seals in 1914 amounted to a total of $2,320,000, which will be devoted to anti-tuberculosis work in the United States. Over seven million more seals were sold than in 1913.

AMERICAN MEDICAL ASSOCIATION.—The 66th annual convention of the American Medical Association will be held at San Francisco from June 21 to 25, inclusive. The railroad agencies have organized and announced a series of various trips that may be made from Eastern cities, taking in not only the convention, but a number of interesting points along the routes in both directions. Various combinations will be made to suit the time, convenience and interests of different individuals. It is hoped and expected that this opportunity, combined with the attraction of the Panama-Pacific Exposition, will make the attendance at this meeting the largest in the history of the association.

EUROPEAN WAR NOTES.—It is announced that thirty hospital ambulances, with a complement of surgeons and nurses, are shortly to be sent from France to Russia to assist the Russian army medical corps in its care of the wounded.

It is reported that the American British War Relief Association has recently sent $800 worth of ether and chloroform and 12 cases of medical supplies for distribution and use in the military hospitals at Rouen and Havre, France.

On March 5 the total of the New York Belgian Relief Fund amounted to $952,877.15; the New York Red Cross fund to $464,796.11; and the Committee of Mercy fund to $122,125.72.

On March 5 the New England Belgian Relief fund amounted to $225,539,86; the Polish Relief fund to $24,711.22; and the Lafayette fund to $10,023.00.

Report from London on March 2 states that since the beginning of the war only 569 deaths have been caused by disease among the British troops. Of these, only 51 have occurred among troops at the front. The remaining 518 have been among recruits in training in England, of whom 351 have died of pneumonia. The following table presents the statistics of the incidence and mortality of the important diseases among British troops at home and at the front since the outbreak of the war.

	Expeditionary *Force.		Troops in †U. K.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever.....	0	0	0	0
Typhoid fever....	‡625	‡49	262	47
Cholera	0	0	0	0
Smallpox	‖	‖	1	0
Scarlet fever.....	195	4	1379	22
Diphtheria	‖	‖	783	6
Measles	§175	§2	1045	65
Dysentery	‖	‖	215	1
Pneumonia	‖	‖	1508	351
Cerebrospinal meningitis	‖	‖	62	26

* Up to Feb. 11. † Up to Jan. 31. § Including Indian troops—cases, 5; deaths, 0. ‡ Including Indian troops—cases, 25; deaths, 4. ‖Returns not at present available.

ITEMS OF MEDICAL LEGISLATION.—On Feb. 24 the National House of Representatives passed a bill authorizing the establishment, under the United States Public Health Service, of a fed-

eral home for lepers. This bill has now been sent to the Senate.

On Feb. 24, the New Jersey Senate passed a bill advocated by the Rockefeller Institute for Medical Research designed to legalize animal experimentation in that state. This bill has now been sent to the House of Representatives.

On Feb. 27, the committee on public health of the Massachusetts General Court reported favorably a bill permitting the issuance of a search warrant for any kind of habit-forming drugs. The bill is aimed to supplement the action of the Harrison bill in suppressing the illegal use of such drugs.

On Feb. 23 a hearing was held before the committee on public health on the so-called interstate reciprocity bill, whereby it is provided that physicians registered in one state may practice in another without reëxamination and registration. This bill was opposed by Dr. Walter P. Bowers and Dr. Arthur K. Stone, the respective secretaries of the State Board of Medicine and of the legislative committee of the Massachusetts Medical Society. Dr. Bowers said in part:—

"This bill is reasonable on the face, but in a number of states in which it has been tried it has been found that a man, incompetent in one state, has gone elsewhere on the reciprocity basis. It is an imposition on the state to which he goes, for he may take an easy examination in one state and go to another where the standard is higher, and thus compete with men much better trained. A well-equipped doctor does not object to taking another examination, for his previous record has great weight in passing him."

On March 2, a hearing was held at the State House before the legislative committee on public health, relative to a bill (Senate No. 228) proposed by the Massachusetts Dental Society, creating a new board of dental examiners, establishing a higher standard of dental education, and providing for the registration of so-called dental nurses. The bill was advocated by various dentists and opposed by others, among the latter being Dr. Thomas J. Barrett of the Massachusetts State Board of Registration in Dentistry. So much criticism of the bill was made that it was virtually agreed to draft a new measure, to be presented at another meeting of the committee on Monday of this week, March 8.

HARVEY LECTURE.—The tenth and last lecture in the current course before the Harvey Society will be delivered at the New York Academy of Medicine on Saturday evening, March 13, by Dr. Elliott P. Joslin of Harvard University on "Carbohydrate Utilization in Diabetes Based upon Studies of the Respiration, Urine and Blood."

BOSTON AND NEW ENGLAND.

HARVARD CANCER COMMISSION.—The recently published second annual report of the Collis P. Huntington Memorial Hospital records the activities of this institution and of the laboratories of the Harvard Cancer Commission for the year ended June 30, 1914. During this period a total of 150 out-patients and 48 ward cases with carcinoma were treated, and including cases of sarcoma, benign growths and other conditions, a total of 130 house patients and 230 out-patients were treated. The reports of Dr. Tyzzer, Dr. Ordway and Dr. Duane record the scientific activities in cancer and radium research. Dr. Duane's apparatus for the collection and purification of radium emanation is illustrated with two full-page plates. The report concludes with a list of the thirty-nine publications issued to date by the Harvard Cancer Commission.

APPOINTMENT OF DISTRICT HEALTH OFFICERS.—On March 1, with the approval of the Massachusetts Public Health Council, Dr. Allan J. McLaughlin, state commissioner of health, announced the appointment of the eight district health officers who are to have charge of the administration of public health affairs under the direction of the state department of health. These appointees are as follows:—

Dr. Lyman A. Jones of North Adams, Dr. William H. Coon of Haverhill, Dr. Merrill E. Champion of Arlington, Dr. Adam S. MacKnight of Fall River, Dr. William W. Walcott of Natick, Dr. Charles E. Simpson of Lowell, Dr. John S. Hitchcock of Northampton and Dr. Frank L. Morse of Somerville.

These physicians, who will be required to give their entire time to the work, will be assigned to the eight new districts established by the bill under which the present state department of health was organized. They will begin their duties on March 15. These appointments complete the working organization of the department.

HOSPITAL BEQUESTS.—The will of the late Dr. Henry Cecil Haven, filed for probate in Boston on March 2, contains a bequest of $5000 to the Children's Hospital of Boston. Upon the death of a beneficiary the testator's real estate at Nahant, Mass., will revert to the Children's Island Sanatorium of Marblehead, Mass.

EPIZOÖTIC OF FOOT AND MOUTH DISEASE.—On February 28 it was announced that two new cases of foot and mouth disease had been discovered at Waltham, Mass. Quarantine has been established in fifty-one communities, in thirty-two of which the disease was discovered in the first epizoötic and in fifteen of which it is now present. During this second outbreak 640 animals have already been slaughtered.

"The Animal Industry Department has sent out letters to the farmers of the Commonwealth, requesting them to maintain a strict quarantine on their own premises. It is the opinion of the department that the disease has been spread more by human beings than by the transportation of infected cattle."

On Feb. 28 also three new cases of foot and mouth disease were discovered in Oneida County, near Utica, N. Y. On March 1, 62 cattle of an infected herd were slaughtered at Woonsocket, R. I. On March 2, another case of the disease was discovered at Everett, Mass., and a new case at Fall River, Mass., making the sixteenth community in Massachusetts involved in this recrudescent epizoötic.

On March 2, the ways and means committee of the Massachusetts House of Representatives reported favorably, with two amendments, the resolve (House No. 1729) accompanying Gov. Walsh's recent special message for compensation for cattle killed and property destroyed in controlling the foot and mouth disease in this state. The text of the resolve and amendments is as follows:—

"Resolved, That there be allowed and paid out of the treasury of the Commonwealth, from the ordinary revenue, a sum not exceeding one hundred and fifty thousand dollars, to be expended under the direction of the Commissioner of Animal Industry, for the payment of claims for cattle killed and property destroyed during the present epidemic of the foot and mouth disease; provided, that in cases where an appraisal has already been made by the State Department of Animal Industry or by the Federal Department of Agriculture, and assented to by the owner, the payment shall be limited to 50% of the appraised value; and that in all other cases the payment shall be limited to 50% of the health value of the cattle, to be determined by the Commissioner of Animal Industry, subject, both as regards cattle and other property, to the rights of arbitration and petition in the same manner as provided by section twenty-six of chapter ninety of the Revised Laws, relative to the destruction of animals afflicted with tuberculosis, so far as applicable. In no case shall the percentage of value to be paid by the provisions of this act, added to the amount allowed by the Government of the United States, exceed the value as hereinbefore determined.

"One amendment to the original resolve strikes out the provision that 'in cases where the owner gave a purported bill of sale to the Commonwealth the owner shall be entitled to interest from the date of such bill of sale to the time of payment.' It is stated that it has not been customary for the Commonwealth to pay interest.

"The other amendment changes 'per cent.' to 'percentage.' A 'percentage' is said to mean a sliding scale."

CASES OF INFECTIOUS DISEASES reported to the Boston Board of Health for the week ending Mar 2. 1915: Diphtheria, 68, of which 14 are non-residents; scarlatina, 87, of which 14 are non-residents; typhoid fever, 9; measles, 154; tuberculosis, 46, of which 2 are non-residents. The death-rate of the reported deaths for the week was 17.42.

Obituary.

HENRY CUTLER BALDWIN, M.D.

DR. HENRY C. BALDWIN died suddenly February 25, in his fifty-sixth year. Although he had been in failing health for some years, he had so successfully concealed this fact from his friends, and even from his family, that his death was wholly unexpected.

Dr. Baldwin was born in Roxbury, Mass., October 27, 1859, of excellent Colonial ancestry. He was graduated from Harvard College with high rank in the class of '80, which numbered Theodore Roosevelt among its members. He at once entered the Harvard Medical School, where he was also distinguished as a scholar. He thereafter served as surgical house pupil at the Massachusetts General Hospital and later, for a time, was an assistant physician at the McLean Hospital. Before entering upon his service at the latter institution, he made a trip around the world, the remembrance of which was always a source of satisfaction in his later years. Again, after leaving the McLean Hospital, he went abroad and took a course at the Rotunda Hospital in Dublin and also made studies and observations in the Salpêtrière in Paris and elsewhere on the Continent. Returning to America, he taught for a period at the Harvard Medical School and soon thereafter became associated with Dr. James J. Putnam in the neurological department of the Massachusetts General Hospital. He rose through the various ranks until he became one of the neurologists to the hospital, a position which he held at the time of his death. For many years he was officially connected with the Free Hospital for Women, but finally resigned to devote all his energy to the work of the Massachusetts General Hospital clinic.

Apart from his hospital work, in which his enthusiasm never flagged, he was, at one time, a member of Mayor Quincy's advisory board of visitors to public institutions and chairman of the board of trustees of the Boston Insane Hospital. These public functions he performed in addition to his active private practice, which concerned itself largely, but by no means exclusively, with disorders of the nervous system. He was a member of the Massachusetts Medical Society, of the American Medical Association, of the American Medico-Psychological Association, of the American Neurological Association, of the Boston Society for Medical Improvement, and of the Boston Medical Library. He was especially interested in the Boston Society of Psychiatry and Neurology, of which he was, at one time, president. At a recent anniversary dinner of this society only a few weeks before his death, he took charge of the music and sang with his accustomed vigor.

Apart from his professional interests, which always occupied his chief attention, he took great pleasure in music and was himself the possessor of an excellent voice. He was a member of

the Cecilia Society, which he joined in 1883, singing at the first concert of the society in that year. He was several times a director of the society and, for the past three years, had been very active in maintaining its integrity. He also belonged to the so-called "Doctors' chorus" and the Harvard Alumni chorus. Vocal music was his special delight and relaxation. A further characteristic interest was his love for animals. He always had dogs of recognized lineage and was an enthusiastic horseback rider. Although in certain respects eminently social, he cared little for what is popularly called society; his work and his home life remained throughout his chief interests.

Of all his activities, his relation to the Massachusetts General Hospital undoubtedly took first place. He was an extremely loyal friend to the institution and worked always for its best interests. He was never neglectful of what he considered his duty, and up to a few days before his death was seeing patients and prescribing treatment as he had been doing for nearly three decades. He was a strict disciplinarian and felt very strongly that the welfare of the hospital depended upon the maintenance of this discipline. While he insisted that his subordinates should obey the rules strictly, he never shirked his own responsibility or regarded himself as exempt from the regulations which he imposed upon others. The hospital has lost in him a loyal and devoted friend.

He was not a voluminous writer and he did not often take part in discussions at medical meetings, but his interest in the progress of medicine remained unabated. His strength lay in his power of organization and in his capacity to accomplish work which he set himself. He was indefatigable in his treatment, especially by mechanical means, of certain stubborn nervous disorders, and accomplished at times what seemed impossible in overcoming apparently hopeless muscular incapacity. He was no less active during the final years of impaired health than he had been before, and bore his increasing ill health courageously, with the determination, largely successful, of keeping from his colleagues the serious disability from which he was suffering. Although undoubtedly aware of his desperate condition, even on the day of his death, during his periods of consciousness, he was normal in mind and apparently wholly unconcerned.

As a man, few knew him intimately, but those who did found in him much to respect and admire. A widow and one brother survive him.

APPOINTMENTS.

University of London.—*Dr. Edward Barclay-Smith* of Cambridge, has been appointed professor of anatomy at Kings College in succession to Dr. Watterston; and *Dr. E. P. Cathcart* of Glasgow has been appointed to succeed Dr. Leonard Hill as professor of physiology at the London Hospital Medical College.

Miscellany.

WORK OF DR. CARREL IN FRANCE.

The Rockefeller Institute for Medical Research has recently communicated the following information relative to the work of Dr. Alexis Carrel in France. Dr. Carrel has now been detached from the Lyons Hospital and placed in charge of a hospital at the Campaigne near the northern line of battle.

"For the use of the patients in charge of Dr. Carrel and his assistants, the government has requisitioned a hotel, which has been converted into a hospital with accommodations for about one hundred persons. The government will provide administrative officers as well as competent surgeons suggested by Dr. Carrel, to carry on the regular work, thus leaving Dr. Carrel free to perform his characteristic operations, especially in the line of transplanting tissues, blood vessels and nerves, and blood transfusion, and to conduct the laboratory studies which are about to be undertaken.

"In order that the work under Dr. Carrel may not only be of the greatest effectiveness at the moment, but may be made permanently available to the world of science, the Rockefeller Institute is equipping Dr. Carrel's hospital with complete apparatus for research in the bacteriological, pathological, chemical and surgical conditions which may arise.

"Dr. Carrel, who was spending his vacation in France at the outbreak of the War, immediately offered his services to the French government, which were accepted. He was detailed to the military hospital at Lyons, at which there were referred to him especially the wounded with injured blood vessels and nerves, in view of the research work which he had done in these classes of injuries. From the application of the method which he discovered for suturing and transplanting blood vessels and tissue, it was possible to save limbs which otherwise would have inevitably been lost. Dr. Carrel has now been given special facilities as near as possible to the line of battle, because of the unusual conditions which have developed in this conflict incident to trench warfare.

"It has been supposed that all future wars would yield small numbers of infected wounds. The facts, however, are that no previous war has yielded such a large number of infected wounds as the present one.

"The reasons for this under the old conditions are developed to be as follows: poor hygienic facilities, infection of the wounds caused by the surgeons who carried the infecting germs on the operating instruments, dressings, etc., the introduction of infected material from without at the time of injury, were the sources of infection. In the present case the infections occur because the injured in trenches receive their injuries

from missiles which carry dirt and soiled clothing into wounds; and also because in many cases it is days before the injured can be removed. The infections have also been of an unusual character. Formerly they were usually suppuration and pus formation. Now they are commonly due to the development of gas in the tissues and to tetanus or lock-jaw.

"This gas infection is very serious in form. It originates in bacteria of the soil, particularly soil which has been under a high state of cultivation for a long period of years. The technological term applied to the condition in gaseous phlegmon. The bacteria which cause it do not grow except in the absence of atmospheric air which the injured tissues provide. In their growth they break up the constituents of the tissues and impart a gas in which hydrogen forms a large part. This gas penetrates the tissues and carries the infected material further and further and may penetrate into the blood, when it soon causes rapid death.

"Hitherto this class of infection has been so rare that adequate means for its prevention and cure have hardly been worked out. It is in order that he might have access to this class of cases, now, unfortunately, so numerous, that Dr. Carrel has been transferred to the northern field of war. It is in order that, in addition to the regular routine work of the care of the wounded, he may study these infections especially, he is being provided by the Rockefeller Institute for Medical Research with the medical equipment requisite for this work.

"In carrying out the enormous work incidental to military operations one government alone could hardly undertake at this critical period to organize hospitals and laboratories for conducting research work. They must be quite content to deal with conditions as they arise. It is just there that Dr. Carrel's peculiar qualifications come in, and in that respect that the contribution of the Rockefeller Institute is largely made.

"Hence it is that he is to have a staff consisting of bacteriologists, chemists and technicians, forming a laboratory unit in addition to the regular surgical unit of the hospital. He is fortunate in being joined by Dr. H. D. Dakin, who has been for many years in this country and has a distinguished reputation as a chemist. He has been assigned to take charge of the chemical part of this humane work of investigation.

"The Rockefeller Foundation has just voted an appropriation of $20,000, to be used under the direction of the Rockefeller Institute, in furthering medical research work under war conditions.

"The Institute has had many appeals made to it for serum for use in the treatment of meningitis and dysentery and these serums have been distributed freely."

CO-OPERATION OF THE CLERICAL AND MEDICAL PROFESSION.

As the result of a suggestion in the editorial on "The Minister and the Doctor," published in the issue of the JOURNAL for Oct. 1, 1914 (Vol. clxxi, page 532), a committee was appointed by the Massachusetts Federation of Churches to confer with a similar committee of the Massachusetts Medical Society on the subject of co-operation between the clerical and medical professions in the solution of problems of public health. At a joint meeting of these two committees in Boston on Feb. 24, 1915, the following votes were passed as representing the opinion of the meeting:—

"1. That intimate and practical coöperation should be established and maintained between the Massachusetts Federation of Churches and the Massachusetts Medical Society for the purpose of improving public health in this Commonwealth.

"2. That the churches of every community (through their local federation, where one exists) should consult and coöperate with its physicians in matters of public health.

"3. That the fundamental need is that of a competent health officer in every city, township or group of towns.

"4. That whatever specific local needs in the line of health are discovered, should be taken up, both educationally and practically, by the co-operation of the churches and the physicians."

The committee representing the Massachusetts Medical Society consisted of Dr. Milton J. Rosenau, Dr. Annie Lee Hamilton, and Dr. Abbie Noyes Little.

Correspondence.

THE LABOR CLEAN MILK BILL.

CANTON, MASS., February 25, 1915.

Mr. Editor: I have read your editorial "The Labor Clean Milk Bill" in the issue of February 25th and am somewhat surprised that you recommend this bill for passage without more discussion.

At the present time it is absolutely possible to control the milk situation throughout the Commonwealth with the present powers given to local boards of health. They need no further authority.

For the past two years we in our town have been able to control the supply of milk sold in the town. This is our method: We license every dealer and producer. We examine the milk of every dealer both for cleanliness and quality at least once a month. His record for that examination is published each month in the local paper. Any dealer whose milk is below the standard is personally notified that he must improve. If his milk continues to be below standard, we prohibit his selling until such time as we are satisfied that he produces clean milk. We hold dealers responsible for milk coming from dairies outside the town. This method has proved satisfactory and efficient.

When I first heard of this bill, I wrote to Mr. Myron E. Pierce, counsel for the Massachusetts Milk Consumers' Association, stating the above opinion. This is a quotation from his letter in reply: "There

is no particular need of the bill so far as the powers of local boards are concerned, but there is great need, it seems to me, of some such bill to give the State Board of Health adequate powers, etc."

Thus the bill seems to be one to increase the powers of the State Board of Health and not primarily one to enable us to obtain cleaner milk. This method of obtaining power for the State Board of Health seems to me questionable. I believe with many others that the State Board of Health should have more authority in all health matters but I do not believe they should have a little here and a little more there, given them by a series of various kinds of laws until it will be very difficult to know just how much power they do have in any particular case.

Let the State Board of Health be given adequate power in all health matters and over local boards of health, if you will, through some comprehensive legislation, but let us keep off the Statute books such unnecessary laws as this bill (Senate No. 78) will be.

It seems to me this bill should be further discussed before it is so heartily recommended.

Respectfully yours,

DEAN S. LUCE, M.D.

SURGICAL INSTRUMENTS FOR THE EUROPEAN WAR.

BOSTON, March 3, 1915.

Mr. Editor: I beg leave to make a final report on the instrument-collecting enterprise which you have been kind enough to notice in your columns.

Through the coöperation of the profession and several of the surgical instrument makers in the city I was able to send away—mainly to Servia and Russia, but into France also—fourteen lots of instruments, consisting of three large barrels, two trunks, packing cases and a number of smaller packages. Besides these, Dr. Seabury W. Allen contributed a valuable Heinze X-ray apparatus in excellent order, and in addition to the gifts from the surgical instrument makers which have been previously acknowleged, a collection of instruments of value was sent me by the E. F. Mahady Company.

I desire again to express my appreciation of this kind coöperation.

Very truly yours,

JAMES J. PUTNAM, M.D.

A REJOINDER.

DORCHESTER, MASS., February 20, 1915.

Mr. Editor: Dr. Richard C. Cabot in the issue of Feb. 18, 1915, of the JOURNAL, attempts to explain wherein his attacks upon the medical profession agree with and differ from those of Mr. George Bernard Shaw. Had he brought his criticism to the Medical Profession through its regularly constituted channels of communication rather than by way of the lay press it would not now be necessary for him to try to "correct misrepresentations." Even if the alleged short comings of physicians were of flagrant and serious a nature, was it wise or necessary for a member of the profession voluntarily to expose them before the ever curious public? Such methods undermine the confidence and lower the esteem in which we, as physicians, wish and ought to be held by the whole world. Constructive, helpful criticisms are always well received and desired by medical men when advanced in the council chambers of their medical societies and journals. However much one may coincide with Dr. Cabot's ideas relative to medical abuses, and his theories of medical reform, the profession may justly criticise and resent the manner chosen by him, in trying to bring about the changes which he advocates.

Very truly yours,

SAMUEL CROWELL, M.D.

BELGIAN PHYSICIANS' RELIEF FUND.

REPORT OF THE TREASURER OF THE COMMITTEE OF AMERICAN PHYSICIANS FOR THE AID OF THE BELGIAN PROFESSION FOR THE WEEK ENDING FEB. 27, 1915.

CONTRIBUTIONS.

The Monmouth Medical Club, Monmouth, Ill..	$ 10.00
The Adams Co. Med. Soc., Quincy, Ill.....	42.00
Dr. Charles H. Smith, Uniontown, Pa.....	25.00
Dr. Frederick J. Walter, Daytona, Fla.....	10.00
Dr. Austin C. Brant, Canton, Ohio.....	5.00
Dr. William D. Byrne, Chicago, Ill.....	5.00
Dr. Simon Levin, Lake Linden, Mich.....	5.00
Dr. Miles F. Porter, Fort Wayne, Ind.....	5.00
Dr. J. B. Duncan, Pittsburg, Pa.....	10.00
Dr. J. M. Patton, Vandergrift, Pa.....	1.00
Dr. N. B. Williams, Perkasie, Pa.....	1.00
Dr. Wilson F. Phillips, Dorchester, Mass.....	5.00
Dr. Donald C. Balfour, Rochester, Minn.....	25.00
Dr. Austin Flint, Jr., New York, N. Y.....	25.00
Dr. Evan T. Steadman, Hoboken, N. J.....	10.00
Dr. John B. Nichols, Washington, D. C.....	10.00
Dr. Hermann G. Klotz, New York, N. Y.....	5.00
Dr. George P. Coopernail, Bedford, N. Y.....	5.00
Dr. K. I. Sanes, Pittsburg, Pa.....	25.00
Dr. Herman F. Vickery, Boston, Mass.....	25.00
Dr. H. H. Atkinson, Fordyce, Ark.....	5.00
Dr. Archibald MacLaren, St. Paul, Minn.....	25.00
Dr. Helen C. Putnam, Providence, R. I.....	5.00
Maricopa Co. Med. Society, Phoenix, Ariz....	25.00
Dr. J. D. S. Davis, Birmingham, Ala.....	5.00
Dr. J. M. Popp, New Castle, Pa.....	5.00
Dr. Horace Binney, Boston, Mass.....	5.00
Dr. Warren Wilson, Northfield, Minn.....	5.00
Dr. Gibbs Biscoe, Pendleton, Ark.....	5.00
Dr. Eleanore Boulton, Philadelphia, Pa.....	5.00
Dr. O. L. Perry, Elkins, W. Va.....	2.00
Dr. John P. Getter, Belleville, Pa.....	2.00
Dr. W. H. Witt, Nashville, Tenn.....	5.00
Salt Lake Co. Med. Soc. Salt Lake City, Utah	50.00
New York Medical Union, New York, N. Y...	100.00
The Montgomery Co. Med. Soc., Dayton, Ohio	304.50
Receipts for week ending Feb. 27.....	$ 807.50
Previously reported receipts.....	3579.00
Total receipts.....	$4386.50
Previously reported disbursements...	$3575.00
Disbursements, week ending Feb 27, 352 boxes of food @ $2.30.....	809.60
Total disbursements.....	$4384.60
Balance	$1.90

F. F. SIMPSON, M.D., *Treasurer.*

In addition to the financial report for the week ending February 27th, the Treasurer would call the attention of the medical profession to the following letters:

"BALTIMORE, February 23, 1915.

"*My Dear Dr. Simpson:* Your letter of February nineteenth received. Madam DePage was in Baltimore for a short time last week. I told her something of the work that the medical men in this country were doing for their confreres in Belgium. She was much interested and most grateful for what had already been done. She is in this country commissioned by the King of Belgium, to whom her husband is personal physician, to do everything she could to secure contributions for her starving countrymen. Her account of conditions in Belgium is pathetically interesting. The needs of her country beggar description. While so much is being done and has already been done by this country, so much more must be done in order to save from starvation many hundreds of men, women and children. I wish it were possible for everyone to hear her account of what the Belgians are doing for themselves and of their gratitude for what is being done for them and, at the same time, get some sort of an appreciation of the magnitude of the need for more and immediate assistance. I feel sure it would result in a more prompt and generous re-

sponse on the part of the profession than that which has already been made.

"Madame DePage herself is now on her way across the Continent and will visit as many cities and see as many people as possible in order to deliver her message.

"With kind regards,

"Sincerely yours,

"(Signed) J. M. T. FINNEY."

The efforts of the Committee of American Physicians for the Aid of the Belgian Profession are directed toward the relief of civilian physicians and their families in the northeastern or invaded portions of Belgium.

The purpose of Madam DePage is to establish additional field hospitals and further other Red Cross work in the southwestern part of Belgium.

In a recent letter she says: "The big conflict of the present war is still in the future; the most terrific fighting of all will come this spring. We must foresee the coming slaughter and be prepared to render instant aid to the thousands of wounded, friends and foes, who will fall within our lines."

The following is an extract from a letter from Dr. J. Riddle Goffe, under date of January 26, 1915:

"The fact that the English Government has announced that it will no longer continue to grant its monthly stipend to the British Commission for Relief in Belgium comes with somewhat startling disappointment."

The work of relief must now depend almost exclusively upon contributions from the United States. This means that our efforts must be redoubled if we are eventually to reap the benefit of what has already been done and carry the Belgian people through to the time when their own meager harvest can supply their actual necessities. It must be constantly kept in mind that the status of the 1,400,000 utterly destitute in Belgium are still standing in the bread line or hovering around the soup kitchens. A recent communication from Dr. Jacobs of Brussels, gives a heartrending picture of the condition of Belgian civilian physicians and their families.

The following letter is self explanatory:

"DAYTON, OHIO, February 25, 1915.

"*My dear Doctor Simpson:* Pursuant to a resolution passed by The Montgomery County Medical Society, Feb. 5, 1915, authorizing a committee of three of its members, to raise a fund for the relief of the Physicians of Belgium and their families, the pleasant task was immediately started with the result indicated by the inclosed New York draft for $304.50. We but join you and the other members of your splendid Committee in the hope that every farthing of this offering may reach our afflicted brethren in Belgium and that the end is not in the far distance when lasting, permanent relief may be their heritage.

"MONTGOMERY COUNTY MEDICAL SOCIETY,

"By its Committee:

"J. MORTON HOWELL,
"GEORGE GOODHUE,
"C. L. PATTERSON. } *Committee.*"

SOCIETY NOTICES.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.— A special meeting of the Society will be held at the Robert B. Brigham Hospital, Parker Hill Avenue, Brookline, on Wednesday, March 17, 1915, at 12 o'clock, noon.

Clinics illustrating the work of the several departments of the hospital will be given as follows:

Dr. Louis M. Spear, "Cases of Chronic Medicine."

Dr. Edward P. Richardson, "Cases of Chronic Surgery."

Dr. Charles F. Painter, "Cases of Chronic Arthritis."

Lunch will be served at 1 P.M.

To reach the hospital:

Automobiles take Huntington Avenue to Calumet Street, Hillside Street, Parker Hill Avenue, to top of Hill.

By electrics: Huntington Avenue through Brookline Village to Waite Street.

LYMAN S. HAPGOOD, M.D., *Secretary.*
6 Garden Street, Cambridge, Mass.

AMERICAN ASSOCIATION OF IMMUNOLOGISTS.—The annual meeting will be held at Washington, D. C., May 10, 1915.

MARTIN J. SYNNOTT, M.D., *Secretary,*
Montclair, N. J.
GERALD B. WEBB, M.D., *President,*
Colorado Springs, Colo.

AMERICAN POSTURE LEAGUE.—The second annual luncheon of the American Posture League will take place at the Hotel Astor, New York, on Saturday, March 13, at 1.30 P.M. The Central Committee on Public Health Organizations, which meets in New York on the same date, has been invited to attend the luncheon. Several of its members are officers or directors in the Posture League.

The after-luncheon program will set forth the educational, scientific and welfare aspects of the work of the organization. The President and founder of the League, Miss Jessie H. Bancroft, will preside and will speak on the history, plan and work of the American Posture League; other speakers will include Dr. Fred. erick R. Greene, of Chicago, first vice-president of the American Posture League, and secretary of the Council on Health and Public Instruction of the American Medical Association; Dr. Joel E. Goldthwait, second vice-president, and Dr. E. G. Brackett, both of Boston; Dr. Eliza M. Mosher, Dr. Henry Ling Taylor, secretary, and Dr. S. Josephine Baker, of New York. Dr. Percy W. Roberts will present an important report of original research conducted by the League; Dr. Anna L. Brown will tell of the National contest on Posture being conducted by the Young Women's Christian Association, and Mr. Harry O. Bullock will speak for the Brooklyn Rapid Transit Company, relative to the seats in the new subway cars, which the Posture League designed in coöperation with the construction engineers of the company.

The annual meeting for the election of directors and officers will occur earlier in the day.

H. L. TAYLOR, M.D., *Secretary.*

RECENT DEATHS.

DR. JAMES F. DONNELLY, who died on February 25 at Nish, Serbia, was a graduate of the University of Louisville and a practitioner in New York City. He went to Serbia in November, 1914, with an American Red Cross unit. The cause of his death was typhus.

DR. O. K. SPRENGEL, surgeon-in-chief of the public hospital at Braunschweig, Germany, and president of the German Surgical Association died recently of septic infection at the age of 62.

DR. JAMES PECKHAM CAMPBELL, who died on Feb. 27 in New York City, was born in Lewes, England, on August 18, 1833. Migrating early to the United States he became a student at Syracuse University, of which at his death, he was the oldest living graduate. After studying medicine he was for a time a surgeon of the Cunard steamship line and later settled in the practice of his profession at Norfolk, Va., and in New York City. He is survived by three daughters and three sons.

DR. LUTHER GRAVES TOWNSEND, a retired Fellow of The Massachusetts Medical Society, died at his home in Townsend, Mass., March 1, aged 70 years. He was born in Nashua, N. H., Dec. 12, 1844, and was graduated from the Harvard Medical School in 1871, serving as house physician at the Boston Lunatic Hospital and at Deer Island after graduation. He practised at Townsend the rest of his life and was a member of the school board of that town from 1880 to 1900.